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WITH GOD IN MIND:

DIVINE ACTION AND THE NATURALISATION OF CONSCIOUSNESS

BY

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Declaration:

I, Sarah Lane Ritchie, hereby certify that this thesis has been written by me; that it is the record of work carried out by me; and that it has not been submitted in any previous application for higher degree.

Signature _____

Date _____

To My Mom and Dad

Abstract

This thesis addresses the question of divine action in the mind: Is human consciousness a uniquely nonphysical causal joint wherein divine intentions meet natural realities without contravening lawlike physical processes? It is argued that consciousness is not uniquely spiritual but wholly natural (and possibly physical). However, this need not lead to the conclusion that divine action in the mind does not occur. Rather, this thesis argues that noninterventionist causal joint programs (such as those privileging the mind as uniquely open to divine action) are both scientifically implausible and theologically insufficient, resting on questionable metaphysical presuppositions that are not necessitated by either theology or the natural sciences. By discarding the God-nature model implied by contemporary noninterventionist divine action theories, one is freed up to explore theological and metaphysical alternatives for understanding divine action in the mind (and elsewhere). It is argued that a theologically robust theistic naturalism offers a more compelling vision of divine action in the mind than that offered by standard causal joint theories. By affirming that to be fully natural is to be involved with God's active presence, one is then free to affirm divine action not only in the human mind, but throughout the natural world.

This thesis is divided into two parts. Part One engages with the scientific and philosophical literature surrounding human consciousness, and uses debates about the nature of the mind to offer a sustained analysis and critique of what is termed the "standard model" of divine action. It is argued that the noninterventionist, incompatibilist model of divine action that has spurred the development of various causal joint theories is scientifically and theologically insufficient, and that this is seen particularly clearly in recent theories locating (and constraining) divine action in the emergent human mind. Chapter 2 analyses the contemporary divine action scene, arguing that the standard model presumes noninterventionism, incompatibilism, and a high view of the laws of nature. However, the God-world relationship implied by this model is theologically insufficient. Chapter 3 examines Philip Clayton's divine action theory, which locates divine action in the emergent human mind and is the latest manifestation of the causal joint model described in Chapter 2. After using emergence theory itself to critique Clayton's approach, the thesis then examines the philosophy and science of consciousness, in Chapters 4 and 5. It is suggested that a physicalist understanding of the mind is a well-supported position.

Part Two of the thesis reframes divine action in the mind within an explicitly theological framework. The thesis does this by analysing what is termed the "theological turn" in divine action debates – the recent tendency to react against standard causal joint theories by rejecting the idea that science can say anything about how and whether divine action occurs. Proponents of the theological turn instead understand divine action from explicitly theological perspectives, affirming compatibilist models in which God is seen to work in, through, and with natural processes – precisely because God is never absent from nature in the first place. Such an approach allows theologians to accept physicalist explanations of the mind, precisely because all the natural world is necessarily involved with God. Chapter 6 introduces this theological turn by exploring various versions of naturalism, ultimately suggesting that neither philosophy nor science mandates the sort of metaphysical naturalism assumed not only by those who deny divine action, but (ironically) noninterventionist divine action theorists as well. Chapters 7, 8, and 9 then introduce, compare, and contrast three different versions of strong theistic naturalism: Thomism, panentheistic naturalism, and pneumatological naturalism. While each of these explicitly theological frameworks is distinctive, they share an affirmation of the intimate relationship between God's immanent, active presence in the natural world, and suggest the naturalised mind as a relatively intense locus of divine action, as human minds actively participate in and with God. It is concluded that the participatory ontology supported by these theistic naturalisms does, after all, suggest the mind as a locus of intensified divine action – but for very different reasons than those motivating causal joint theorists.

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PART ONE

DIVINE ACTION AND THE "HARD PROBLEM OF CONSCIOUSNESS"

Chapter 1

Introduction

1.1 Introduction

At any given moment, untold numbers of individuals around the world find themselves experiencing something that has been attested throughout human history: the conscious experience of divine activity, both within their own minds and elsewhere in the world. Prayer, meditation, worship, music, art, contemplation, even theological thinking – these are just a few of the avenues through which religious believers have sought either interaction with God or God's action in specific circumstances. Indeed, Christian scriptures and tradition portray a God who, while transcendent, is also immanent in the natural world – continually responsive to humans and the rest of creation, often to dramatic effect. Yet at the same moment, physicists, cosmologists, mathematicians, biologists, and cognitive scientists (to name just a few) in laboratories and research centres around the world are increasingly discovering the sorts of verifiable, predictable, and empirical mechanisms that would account for the same phenomena experienced by religious believers as divine activity.

The seemingly competitive nature of the explanatory marketplace is nothing new, and the divine action problem has only become more acute as modern science has progressed. In recent decades, the question of divine action has crystallised into what has become known as the "causal joint problem": if an uncreated, transcendent God interacts with nature to bring about specific, responsive actions, then at some point divine intentions must meet physical processes. But how, the question goes, are we to envision the gritty details of this divine-physical interaction, when contemporary science has been so extraordinarily successful at discovering the lawlike regularities that make our universe possible? In answer to this, many in the science-and-religion field have sought scientifically identifiable, seemingly underdetermined causal joints in which God might act in accordance with the laws of nature. However, such causal joint theories (involving, for example, quantum mechanics or chaos theory) can be strongly critiqued as being scientifically implausible and theologically insufficient. This has left divine action theorists

pondering whether divine action scholar Nicholas Saunders' diagnosis may be correct, that "the strong sense of divine action which forms our theological inheritance is simply untenable in the light of our modern understanding of the natural sciences"[1] – in short, that "*contemporary theology is in crisis*."[2]

One approach to divine action that has yet to receive the sustained scrutiny levied against quantum divine action theories (for example) has to do with the human mind. Specifically, many find it easier to accept the possibility of divine action in consciousness than in more seemingly physical areas of the natural world. The most prominent proponent of this approach has been philosopher Philip Clayton, who argues that the emergent human mind may be uniquely open to divine action, insofar as consciousness is fundamentally unexplainable via scientific methodology. If the mind is uniquely nonphysical and spiritual, then divine-human interaction can take place without the violation of any laws of nature – or so the story goes.

This thesis offers a sustained argument that not only is Clayton's mind-based causal joint proposal scientifically implausible and theologically insufficient (analogous to Saunders' treatment of quantum divine action theories), but that the proposal clearly demonstrates the faulty metaphysical presuppositions underlying causal joint theories more generally. In order to develop a robust theology of divine action that fully accounts for scientific knowledge and methodology, the underlying assumptions of what I call the "standard model" (or "standard causal joint model") of divine action must be challenged. While this aspect of the thesis is admittedly deconstructive and critical, my intention is not to deny the reality of divine activity in the mind or elsewhere – I do not agree with Saunders' conclusions regarding theology's apparently dismal prospects. Rather, I suggest that by first critiquing the theological and philosophical presuppositions on which standard causal joint models are based, science-and-religion theorists are then freed up to explore various versions of theistic naturalism (as I will define it below). Indeed, as will be discussed, a "theological turn" is already evident in science-and-religion, with theology-driven models replacing scientifically-based causal joint programs. These theistic naturalisms seek not to confine divine action to any particular physical space, but to theologically reframe the concept of nature itself, and what it means to be properly natural.

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[1] Nicholas Saunders, *Divine Action and Modern Science* (Cambridge: Cambridge University Press, 2002), xiii.
[2] Saunders, *Divine Action and Modern Science*, 215.

Within the metaphysical frameworks of theistic naturalisms, divine action in the mind is indeed plausible, and may even be a site of particularly intense experiences of divine action (or divine-human interaction), but for very different reasons than those supposed by Clayton. My specific research questions (and answers) are discussed below, but first it is helpful to discuss the context in which this project is located.

1.2 Context: Divine Action and the "Standard" Causal Joint Model

The quest to articulate an intellectually robust account of God's activity in the world is a perennial pursuit, with religious thinkers over the centuries attempting to bring their contemporary knowledge of the natural world into contact with theological thinking.[3] Unfortunately, a full historical synopsis of this endeavour lies beyond the scope of this thesis; however, it is important to note that these dual knowledge-seeking endeavours – involving both spiritual and natural truths or realities – are not a strictly modern phenomenon. This being noted, the focus and scope of this thesis is confined to contemporary proposals in the science-and-religion field that explicitly attempt to make divine action align with current scientific knowledge. In other words, one focus of this thesis is the so-called causal joint – that theoretical space wherein divine intentions meet physical realities, but in a way that does not undermine the laws of nature.[4] The hope for causal joint proposals is that they will allow for theological affirmations of divine action in a world that is governed by identifiable physical mechanisms and regularities: if divine action is located in areas of the natural world that are somehow open to such supernatural action, then religious believers and thinkers can claim to take seriously the success of the scientific endeavour, even while they uphold the theological affirmation of God-nature interaction.

A helpful focal point for this divine action discussion is the so-called "Divine Action Project" (DAP), a multi-year collaborative project co-sponsored by the Center for Theology and the

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[3] For one helpful examination of the history of science-and-religion, see John Hedley Brooke, *Science and Religion: Some Historical Perspectives*, The Cambridge History of Science Series (Cambridge: Cambridge University Press, 1991).

[4] The term "causal joint" was coined by theologian Austin Farrer, though Farrer himself was extremely pessimistic about the possibility of humans ever positively identifying such a causal nexus. He writes, "The causal joint (could there be said to be one) between God's action and ours is of no concert in the activity of religion; the very idea of it arises simply as a byproduct of the analogical imagination." Austin Farrer, *Faith and Speculation: An Essay in Philosophical Theology* (London: A. & C. Black, 1967), 66.

Natural Sciences (CTNS) and the Vatican Observatory.[5] Due to its prolonged timeframe (lasting well over ten years) and the impressive array of scholars (including such pioneering figures as Bob Russell, Arthur Peacocke, Ian Barbour, and John Polkinghorne), conferences, research fields, and publications involved, the DAP has been enormously influential in determining the scope and parameters of divine action theories in the science-and-religion field. While the DAP did not exclude nontheistic thinkers or those who reject intentional divine action (see philosopher Wesley Wildman's helpful article for the methods, contributors, and outputs involved[6]), and while a wide range of divine action theories and theologies were proposed, something of a consensus set of commitments resulted from the Project. First, DAP participants were concerned with seeking maximum "traction" between science and theology,[7] or as Wildman explains it, "formal and informal logical connections that yield both intelligibility and potential for correction and improvement."[8] While theoretically such a traction-seeking endeavour might give equal weight to both science and theology, it is important to note that specific proposals within the DAP tended to submit theological affirmations to scientific scrutiny – rather than the other way around. That is, the DAP was highly motivated to demonstrate divine action as scientifically credible; this commitment was (and is) a direct cause of the many resultant causal joint theories.

A second important feature of the DAP was its assumption that divine activity can be categorised into three distinct subtypes: general divine action (GDA), special divine action (SDA), and miracles. GDA was taken to indicate "the creation and sustaining of all reality insofar as this does not necessarily presume any specific providential divine intentions or purposes," and SDA was considered to be "specific providential acts, envisaged, intended, and somehow brought about in this world by God."[9] Miracles, on the other hand, received surprisingly little attention, as they did not seem to align easily with the DAP's commitment to maximum traction between science and religion (more on this below). In any case, it is clear that these distinctions were vital not only for the development of the DAP, but for the science-and-religion field more broadly. Indeed, Wildman explains that "the DAP succeeded in stabilizing terminology that is key for understanding theories of divine action"; by classifying divine actions in this way,

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[5] Wesley Wildman uses this label in his helpful survey article; for a useful list of the DAP's publications, see endnote #2 of Wesley Wildman, "The Divine Action Project, 1988-2003," *Theology and Science* 2, no. 1 (2004): 31-75.

[6] Wildman, "The Divine Action Project," 35.

[7] Described by Philip Clayton in Philip Clayton, *Adventures in the Spirit: God, World, Divine Action*, ed. Zachary Simpson (Minneapolis, MN: Fortress Press, 2008), 53-54.

[8] Wildman, "The Divine Action Project," 37.

[9] Ibid.

scholars might more precisely identify specific problems and solutions regarding theological affirmations and physical processes.[10] However, while one might be sympathetic to the intentions driving such a classification, it is also the case that this terminology actually serves to *shape* – rather than simply to reflect – divine action theories. In other words, what may have been a useful distinction for practical and theoretical purposes has now solidified into a conventional wisdom that may actually hinder theological creativity and real progress in divine action theology (this will be discussed throughout this thesis).

In any case, it is clear that the DAP (as well as those scholars subsequently influenced by the Project) focused its collective attention on special divine action: intentional, specific divine activity envisioned as occurring in and through natural processes. In one sense, this seems an obvious strategic choice. After all, GDA is generally equated with God's providential sustenance of physical regularities; far from being a "hands on" class of divine action, this is the sort of divine "activity" that even a deist could affirm. There is a sense in which GDA can be equated with the laws of nature – thus, GDA as generally understood is a rather uninteresting category of divine action for those seeking to explore the dynamic interaction between a divine agent and the natural world.[11] On the other end of the spectrum, miracles were largely (though not completely) ignored by the DAP, presumably because of the received definition participants seemed to associate with the category. That is, a miracle is often considered – almost by definition, following Hume – to be "a transgression of a law of nature by a particular volition of the Deity, or by the interposition of some invisible agent."[12] So long as miracles are defined as outright violations of the laws of nature, seeking maximum traction between science and theology would seem a pointless activity. Admittedly, interventionist, miraculous divine action has been, and continues to be, widely affirmed by religious believers. As the Westminster Confession of Faith states, "God, in His ordinary providence, makes use of means, yet is free to work without, above, and against them, at His pleasure."[13] One would thus be forgiven for assuming

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[10] Ibid., 35.

[11] As will be discussed in Part 2 of this thesis, this dismissal of GDA may be premature; it is merely the case that GDA *as generally conceived* would seem to be altogether distinct from specific, responsive, special divine action.

[12] David Hume, *An Enquiry Concerning Human Understanding and Concerning the Principles of Morals*, ed. L. A. Selby-Bigge (Oxford: Clarendon Press, 1902), 115f.

[13] *The Westminster Confession of Faith*, 3rd ed. (Lawrenceville, GA: Committee for Christian Education and Publications, 1990), 5.3.

that the distinctions between GDA, SDA, and miracles that occur "without, above, and against" natural means are necessary in any divine action theology (more on this in coming chapters).

It is evident, then, that SDA was the clear theoretical focus of the DAP. Arguably, the most significant and influential figure in the DAP was physicist and theologian Robert John Russell, whose noninterventionist objective divine action (NIODA) model has become almost synonymous with the DAP.[14] That is, the DAP's treatment of SDA focused on divine action that did not abrogate natural processes, and that was not merely a subjective interpretation of otherwise physical or law-governed events. As Russell summarises, "*we can now understand special providence as the objective acts of God in nature and history, to which we respond, and we can understand these acts in a noninterventionist manner consistent with science.*"[15] At least partially due to the DAP, the contemporary divine action discussion has thus been centred, to a significant extent, on the question of how God acts objectively in nature without intervening in the laws of nature. Related to this is a final commitment evidenced by many in the DAP: that is, to incompatibilism, or the idea that either God or natural processes can be responsible for any specific event, but not both. Wildman explains that "incompatibilists adopt the strategy of showing that the physical world is indeterministic, because this is a necessary condition for non-interventionist SDA. This leads to strong interest in gaps, especially uncloseable gaps, in the world's causal nexus."[16] In other words, DAP participants were incompatibilists by virtue of their insistence that any single event can only be identified as divine action if there is not also a natural, physical explanation for that event. This incompatibilist commitment motivates the search for scientifically identifiable, underdetermined causal joints wherein God can act without violating laws of nature. There is thus an important connection between causal joint theories, noninterventionism, and incompatibilism.

As I will argue in Chapter 2 and throughout this thesis, it is evident that the contemporary divine action debate, largely shaped by the DAP, is shaped and determined by several overlapping debates – often implicitly assumed by theorists. Specifically, three of the most significant points

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[14] There are, of course, a great many DAP contributors who would not explicitly subscribe to Russell's NIODA model. However, its general features are quite consistent with the overarching themes and commitments arising from the DAP.

[15] Robert J. Russell, "Does the 'God Who Acts' Really Act? New Approaches to Divine Action in Light of Science," *Theology Today* 54, no. 1 (1997): 45.

[16] Wildman, "The Divine Action Project," 40.

of contention in divine action theories today involve 1) interventionism versus noninterventionism, 2) compatibilism versus incompatibilism, and 3) descriptive versus prescriptive interpretations of the laws of nature. As I will argue in coming chapters, the general approach to divine action taken by the DAP (and followed by countless others influenced by the Project) is marked by a commitment to noninterventionist, incompatibilist divine action that presumes (often unwittingly) a prescriptive or ontological interpretation of the laws of nature. This general approach is what I will call the "standard model of divine action." I do not, of course, mean that this approach should be normative in science-or-religion, that it has been the dominant approach throughout history (it has not), or even that it is the dominant approach among religious believers today (this would be highly unlikely). Rather, by the "standard model" I mean only that approach articulated by the DAP (and understood as I have defined it) that has become prevalent over the last several decades in the science-and-religion field.

The DAP has come under significant criticism in recent years, and the paradigmatic example of this has been Nicholas Saunders' *Divine Action and Modern Science*. While Saunders' arguments will be explored in the next chapter, his methodology is worth noting here, as it is analogous to my argument and method in Part One of this thesis. Specifically, Saunders takes specific causal joint proposals (quantum divine action is the most prominent, but chaos theory and alternative proposals are also addressed), and meticulously analyses them on the basis of their relative scientific merits. In a sense, then, Saunders endeavours to "play the game" of causal joint theories, treating them as if they are as rigorously scientific as purported by their advocates. In so doing, Saunders effectively demonstrates that causal joint theories (such as those promoted by DAP participants) often fail to live up to expectations when examined from the viewpoint of the natural sciences. Thus, he highlights the dangers of identifying divine action with any particular causal joint – namely, that such causal joint theories often crumble under the pressure of scientific, philosophical, and even theological analysis. In fact, Saunders applies the sort of painstaking analytical method to selected causal joint theories that I will apply to the emergent mind divine action proposal (Chapters 3-5).

Moreover (and this is why I mention him here), Saunders demonstrates the vital importance of applying divine action theories to *specific* test cases. It is remarkably easy to build a coherent, consistent divine action model that works well at an abstract theoretical level. As they say,

however, "the devil is in the details," and a robust theory of divine action requires an attention to scientific specificity that may make many philosophers and theologians uncomfortable. Nevertheless, I suggest that scientific scrutiny is a necessary price to pay for divine action theories – most specifically those identifiable as noninterventionist causal joint models. This need not be construed as unduly harsh or unrealistic, for proponents of the DAP and the standard model of divine action explicitly acknowledge scientific plausibility as something of a self-imposed litmus test.[17] In any case, Saunders' approach is something of a template for the sort of scientific and philosophical scrutiny I apply in this thesis to Philip Clayton's emergent mind proposal. While this thesis is not solely deflationary, a robust critique of the model that privileges the mind as uniquely open to divine action is a significant element of the thesis' contribution to the science-and-religion field. It is to the current academic climate surrounding the theology and science of the mind that I now turn.

1.3 Context: Mind-Brain, Soul, and Human Spirituality

Though this thesis addresses divine action in general, its core contribution is more specific; that is, my intention is to specifically address divine action in the human mind. My rationale for focusing on consciousness is threefold. First, as mentioned in the previous section, this is partially a methodological choice. Far too often, divine action debates occur solely in the realm of abstract philosophical or theological theory. While theorising and abstracting are necessary for these sorts of discussions, one risks becoming so general and scientifically untouchable that a divine action theory ceases to be falsifiable or rigorously engaged with the very scientific literature it purports to value. By applying divine action theories to specific test cases, it becomes possible to highlight the theories' relative strengths and weaknesses. While lengthy and meticulous critiques have been levied against quantum and chaos divine action theories, for example, such rigorous analysis has not yet been applied to models involving the mind. Thus, this thesis addresses a gap in divine action research insofar as it critiques the causal joint model as applied to the seemingly nonphysical mind.

[17] As Wildman explains, "The DAP was strongly committed to maximizing traction in the different ways that each subproject demands, because traction increases the credibility of theological proposals." The idea is that scientific credibility is necessary for the theological credibility. Wildman, "The Divine Action Project," 38.

A second reason for focussing on the mind involves the common assumption (even in science-and-religion) that the mind is something "more than" the brain, and that this is a theologically necessary feature of reality. There exists a real and persistent theological resistance to the naturalisation – or even physicalisation – of consciousness, though (as will be discussed) there may be good philosophical and scientific support for at least considering the possibility that the mind *just is* the brain-body-environment system. Insofar as causal joint theorists and others in science-and-religion assume that the mind is inherently unexplainable in scientific terms (and even, like Clayton, actively use the nonphysical mind in their understandings of divine action), this area is woefully under-researched. Indeed, those science-and-religion scholars who do deal with consciousness often assume that the mind is, in some (often unstated) way, nonphysical or somehow "more than" the brain-body. This is most obviously the case in discussions of emergence and consciousness – these will be a major focus in Chapters 3, 4, and 5. In any case, insofar as the mind is theologically assumed to be inherently nonphysical or immune to scientific explanation, consciousness remains one of the last theologically acceptable "gaps" that theologians (and others) assume science will never be able to explain. Indeed, it is evident that this privileging of consciousness as nonphysical or spiritual is linked to a marked interiorisation of divine action. That is, insofar as the science-and-religion field has sought to locate divine action in ontologically underdetermined gaps in the laws of nature, a nonphysical mind has seemed remarkably attractive as an appropriate space for divine action. After all, if consciousness is not subject to the physical laws of nature, then one can affirm divine action as a phenomenon interior to the human person, and which does not violate these physical laws of nature. Indeed, Clayton argues that "no physical laws are broken if there is an exchange of information between a divine source and conscious human agents."[18] In contrast to this God-of-the-gaps thinking, this thesis will urge a sort of theological audacity in actually *welcoming* the naturalisation of the mind. Far from defensively disregarding scientific accounts of consciousness as reductionist, materialist, or as "nothing-buttery," the thesis instead embraces the physicality of the embodied mind, and explores (in Part Two) various theological frameworks that insist upon the physical as, in a sense, *always* more than physical.

A third reason for this thesis' focus on consciousness involves the vital role that the mind indeed plays in accounts and experiences of divine action. At least within Christian theology, the mind

[18] Philip Clayton, "Natural Law and Divine Action: The Search for an Expanded Theory of Causation," *Zygon* 39, no. 3 (2004): 630.

has generally been treated as a locus of God-human interaction. Insofar as one understands God to be personal and relational, and consciousness to be what enables humans to know, experience, and respond, then it makes a sort of intuitive sense that the mind would be particularly important for an account of divine action. In fact, mental interactions with God would seem to be so common and normal for religious believers that they often go unremarked in divine action theologies. For example, prayer, contemplation, intercession for physical healing, meditation, and participation in communal worship are all explicitly conscious events in which religious believers claim to be actually communicating with God, and even – crucially – being acted upon in some way. Church tradition speaks of prevenient grace drawing people to God before they are even aware of their spiritual needs, with the Council of Trent affirming that "God touches the heart of man by the illumination of the Holy Ghost," and describing how one might pray, "Convert us, O Lord, to thee, and we shall be converted."[19] The Bible speaks of a God who "is at work in you, enabling you both to will and to work for his good pleasure,"[20] and the Gospel of Luke affirms that when Jesus was with his disciples, he "opened their minds so they could understand the Scriptures."[21] These are just a few of the great many textual affirmations of divine action in human minds; in fact, it is dangerous to highlight even these few, as this would seem to ignore all the other traditional, biblical, and experiential accounts of divine-human interaction. The point here is that this thesis focuses on the mind precisely because it is such an important site of divine action, traditionally and experientially speaking.

Moreover – and this is significant – divine action in the mind is often overlooked as being somehow less noteworthy or more scientifically plausible than other more seemingly physical instances of divine action. In other words, it is common to assume that a physical healing, for example, requires an account of how God could intervene in the laws of nature; the same scrutiny, however, is not often applied to claims that one has heard from God in some way, or experienced an answer to prayers for peace or comfort, or that God has been revealed to a person in an illuminating way. Clayton, for example, admits that his divine action model (which restricts divine action to the human mind) "makes it much more difficult to conceive a divine influence on rocks or other purely physical systems apart from the laws and initial conditions

[19] The Council of Trent: Session 6, Chapter 5, in *Christian Doctrine: A Reader,* ed. Lindsay Hall, Murray Rae, and Steve Holmes (London: SCM Press, 2010), 192. Also see John Wesley's sermon, "On Working Out Our Own Salvation," in John Wesley, *The Works of the Rev. John Wesley* (London: Thomas Cordeux, 1811).

[20] Philippians 2:13 (New Revised Standard Version).

[21] Luke 24:45 (NRSV).

established by God at creation."[22] And yet, as will be extensively argued, to the extent that the mind is dependent on (or even synonymous with) the brain-body system, even experiences of mental divine action require an account of how God interacts with physical processes. In other words, one goal of this thesis is to prevent science-and-religion scholars from being "let off the hook," as it were, when it comes to divine action in the mind. While divine action in consciousness is a vital part of Christian tradition, theology, and experience, it may be no less physical than a more obviously dramatic instance of divine action.

At this point, a brief word about the theological and philosophical histories of the mind is warranted. The question of how to understand human ontology is a question stretching back thousands of years, with prominent thinkers in every era weighing in on the appropriate divisions of the human person. Mind, body, and spirit, monism, dualism, and trichotomy – debates about what makes a human a human show no signs of ceasing, and a univocal consensus is absent even (or perhaps especially) among theologians and others in science-and-religion. A full discussion of the rich history of theological anthropology is unfortunately impossible within this thesis, nor is it entirely germane to the specific focus on divine action in the mind. That is, while the historical debates are fascinating and important, they are not directly necessary for rigorous discussion of current philosophical and scientific research on mind or consciousness. While it may seem inadvisable to ignore the prominent historical figures involved (Plato, Aristotle, Thomas Aquinas, and Descartes come to mind), the scholarly literature on these thinkers is sizable and readily available. I therefore assume knowledge of the history of the debates under discussion, so that this thesis is better placed to delve deeply into current theories and questions – thereby enhancing the impact of this work on the field more broadly.

Additionally, a word on terminology and scope is important. Even a cursory foray into the mind/body/soul debate will reveal significant confusion over terminology; this is perhaps understandable given the complex philosophical and theological history surrounding these terms.[23] What seems clear is that in the contemporary debate, "mind" has become virtually

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[22] Clayton, *Adventures in the Spirit,* 198.

[23] For a useful introduction to the key issues surrounding the mind, soul, and theological anthropology, see Warren S. Brown, Nancey C. Murphy, and H. Newton Malony, *Whatever Happened to the Soul?: Scientific and Theological Portraits of Human Nature*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 1998). Also see Joel B. Green, ed., *What About the Soul?: Neuroscience and Christian Anthropology* (Nashville, TN: Abingdon Press, 2004).

synonymous with "soul." There are historical reasons for this, not least of which is the post-Enlightenment awareness that some of the functions typically associated with human spirituality and the soul (e.g., memory and emotions) might be susceptible to scientific explanations – and therefore better thought as problems of mind-body interaction. Science writer Kenan Malik explains this well:

> The difficulty in finding a common language in which to talk of the immortal soul and the body-machine led many 17th and 18th-century natural philosophers to speak increasingly of the 'mind' rather than of the 'soul.' The mind was not simply a synonym for the soul in a more mechanistic language. Rather, those aspects of the soul's relationship with a world that were amenable to naturalistic explanations – memory, perception, emotions and so on – were recast as problems of the mind. This transformation helped minimise conflict between theologians and natural philosophers: the soul eventually became the domain purely of theology, while natural philosophers developed the 'science of mind.' But it did not resolve the underlying problem of how to talk about an immaterial entity using a language developed for describing machines. It simply transformed the terms of that problem: the question of how the transcendental soul acted upon the physical body became replaced by the question of how the immaterial mind could arise out of fleshy matter. It still remains a central question for the science of mind.[24]

In other words, the theological category of the soul, and the philosophical or scientific category of the mind (depending on one's views), have become practically and virtually interchangeable – the same sorts of questions about the mind or soul plague theology and philosophy, respectively, though the intellectual contexts are different. It is fascinating to note the ways in which philosophers and theologians work constructively with the ideas of soul and mind, without always recognising the dangers inherent in such an equation of terms (this will be discussed in depth in later chapters). For example, philosopher Richard Swinburne insists that "I now consist of two parts – my soul (the essential part) and my body (a non-essential part), each of them separate substances. My physical properties are mine in virtue of belonging to my body; and since – given the metaphysical possibility of disembodiment in which I continue to possess pure mental properties – mental properties are mine in virtue of belonging to my soul."[25] Whatever one thinks of Swinburne's substance dualism, it is interesting to note that for him, the mind is the soul and the soul is the mind. In one way, this conflation of soul and mind makes intuitive sense – it is difficult to imagine what the soul would be if it were *not* equivalent to the mind. In any case, I bring up this terminological issue by way of explanation: because of the ubiquitous conflation of soul and mind, I will bracket out "soul language" for the duration of this thesis.

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[24] Kenan Malik, *Man, Beast and Zombie: What Science Can and Cannot Tell Us about Human Nature* (London: Phoenix, 2001), 37.

[25] Richard Swinburne, *Mind, Brain, and Free Will* (Oxford: Oxford University Press, 2013), 170.

Readers can assume that arguments involving the mind or consciousness can be equally applied to traditional notions of the soul: namely, in regards to personal existence after death, personal knowledge and experience of God, and, importantly, God-mind interaction. The rationale for adopting the language of mind and consciousness (rather than soul language) is that this facilitates rigorous engagement with the philosophy of mind and the natural and cognitive sciences.

Thus, this thesis will bracket out soul language, as well as historical excurses on human anthropology. Caveats aside, however, it is worth mentioning the basic tension at the heart of this thesis' focus on divine action in the mind. On one hand, Christian theology has long assumed that the mind or soul is somehow distinct from the body. It should be noted that the Bible itself is anything but univocal on this point, and that while an immaterial soul may seem to be a basic affirmation of Christianity, there is much within the Bible to suggest a more holistic, unified picture of the human person: "It is a recurring misinterpretation of the Bible that it implies a distinction between material body and immaterial soul or spirit."[26] One theologian concludes that "we can say that in our times, under the influence of Biblical research, a fairly general consensus of opinion has arisen among theologians. They are increasingly conscious of the fact that the Biblical view…never loses sight of the unity of the whole man."[27] Similarly, biblical scholar Joel Green asserts that "the dominant view of the human person in the New Testament is that of ontological monism, such notions as 'escape from the body' or 'disembodied soul' falling outside the parameters of New Testament thought."[28] At the very least, there is room – on biblical grounds – to deny the necessity of a disembodied soul. Moreover, many Christian thinkers have held more nuanced views about embodiment. For example, Aquinas held a complex view of the body-soul relationship; while he did affirm the post-death survival of a disembodied soul as a special act of God, he was also insistent that the soul should not be thought of as *normally* ontologically separate from the body – indeed, Aquinas thought of the soul as the form of the body.[29] Biblical and theological exceptions

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[26] Leslie Stevenson, David L. Haberman, and Peter Matthews Wright, *Twelve Theories of Human Nature*, 6th ed. (Oxford: Oxford University Press, 2013), 123.

[27] G.C. Berkouwer, *Man: The Image of God*, trans. Dirk Jellema, Studies in Dogmatics (Grand Rapids, MI: Eerdmans, 1962), 200.

[28] Joel B. Green, "'Bodies—That is, Human Lives': A Re-examination of Human Nature in the Bible," in *Whatever Happened to the Soul?: Scientific and Theological Portraits of Human Nature*, ed. Warren S. Brown, Nancey C. Murphy, and H. Newton Malony, Theology and the Sciences (Minneapolis, MN: Fortress Press, 1998).

[29] It has been widely noted that Aquinas may be inconsistent on the question of body-soul unity or distinction. That is, "Aquinas retained (with dubious consistency) an element of Platonism, saying that although the resurrection involves re-creation of the human being as a living body, a union of body and soul, nevertheless the

notwithstanding, however, it is fair to say that the notion of an immaterial soul has been a dominant feature of Christian thinking. Many would agree with John Calvin that "indeed, from Scripture, we have already taught that the soul is an incorporeal substance."[30] Even in a time when contemporary science has clearly demonstrated the mind's involvement with the brain-body, Swinburne's dualistic insistence remains prevalent: "The soul is the essential part of the human – what makes me me. It is the part to which the mental life of humans pertains – it is the soul which thinks and feels and chooses. Soul and body interact. Bodily states often cause soul states, and soul states often cause bodily states. This view is known as substance dualism."[31] As will be demonstrated in coming chapters, various versions of "soft" dualism abound which, while paying lip service to scientific insights on the brain-mind connection, yet insist that the mind is somehow more than the physical body. As mentioned, there are strong theological motivations for this: the immortality of the soul, intercessory prayer, personal revelation of God's existence and presence, and experience of divine action might all appear dependent on the nonphysicality of the mind.

On the other hand, theologians are becoming increasingly sensitive to the naturalising tendencies of the various sciences. As evidenced by the DAP's commitment to "maximum traction," many in science-and-religion (and theology more broadly) actively engage with scientific knowledge and, at the very least, attempt to avoid theological contradictions of scientific claims.[32] When it comes to the human mind, this task becomes rather difficult indeed – not least because there is such disagreement among scientists and philosophers about the nature of consciousness. Granted, there is much that is agreed upon. For example, it is clear that at the very least, mental experiences have neural correlates in the brain. Every feeling, thought, and action at least has a neural correlate that corresponds to the subjective experience. This is nothing new; scientists have known for years that sight, personality traits, fear, anger, love, religious experience, and music (just to name a few) are at least accompanied by specific patterns of neural activity which are predictable, identifiable, and testable. Similarly, it has long been known that what happens in

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soul has a separate existence between death and resurrection." Stevenson, Haberman, and Wright, *Twelve Theories of Human Nature,* 158.

[30] John Calvin, *Institutes of the Christian Religion*, ed. John T. McNeill, translated by Ford Lewis Battles, vol. 1, The Library of Christian Classics (Louisville, KY: Westminster John Knox Press, 1960), 192.

[31] Richard Swinburne, "Soul, Nature, and Immortality of the Soul," in *The Shorter Routledge Encyclopedia of Philosophy*, ed. Edward Craig (New York: Routledge, 2005), 982.

[32] Many in science-and-religion align themselves with one or another category from Iain Barbour's four-fold typology: conflict, independence, dialogue, or integration. While there exist healthy debates about independence, dialogue, and integration, few who are actually working in the field would adopt a conflict model. For more on Barbour's influential typology, see Ian Barbour, *When Science Meets Religion* (London: SPCK, 2000).

the brain affects subjective experience. The celebrated story of Phineas Gage is still instructive, highlighting the fact that brain injury can have permanent and dramatic effects on one's speech, emotions, and even personality.[33] In fact, the correlations and even causal effects between brain activity and mental experience are becoming so well-studied and identifiable that many philosophers and scientists suggest that mere correlation does not accurately describe the relationship between brain and mind. Some would go so far as to agree with physicist and biologist Francis Crick that "'You,' your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will are in fact no more than the behaviour of a vast assembly of nerve cells… As Lewis Carroll's Alice might have phrased it: 'You're nothing but a pack of neurons.'"[34]

This quote from Crick represents the most militantly reductionist school of thought when it comes to the mind, and there are many philosophers, theologians, and even scientists who would disagree with him. These critics would argue that the various brain sciences are exceedingly good at identifying correlations between brain activity and the mind, but that correlation does not equal causation. All of this will be discussed in Chapters 4 and 5, but the important point here is that there exists a good deal of disagreement about consciousness even outside of science-and-religion. Not a small part of this disagreement involves the question of whether consciousness itself is a philosophical or scientific problem. The upshot of such scholarly disagreement is that science-and-religion has not often been pushed or motivated to work constructively with physicalist perspectives on the mind. Indeed, the lack of consensus on what consciousness *is* seems to give theologians license to affirm views that amount to a soft dualism, recognising at least nominal dependence of the mind on the brain while still insisting on a mental "something more." My argument throughout this thesis will be that there are theological resources and frameworks available that not only warrant the acceptance of physicalist approaches to the mind, but also serve to problematise views that link divine-human interaction with a nonphysical mind.

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[33] Phineas Gage was a 19th century railroad worker who experienced traumatic brain injury when a steel rod was driven through his skull, destroying a significant portion of his left frontal lobe. While Gage survived the accident and retained his cognitive abilities, his personality and character were reportedly altered to a high degree. See Stuart Butler, "Gage, Phineas," in *The Oxford Companion to the Mind*, ed. Richard L. Gregory (Oxford: Oxford University Press, 2004), accessed 6 June, 2017, http://www.oxfordreference.com/view/10.1093/acref/9780198662242.001.00 01/ acref-9780198662242-e-359.

[34] Francis Crick, *The Astonishing Hypothesis: The Scientific Search for the Soul* (New York: Touchstone, 1994), 3.

1.4 Context: The Theological Turn and Theistic Naturalism

As stated, much of this thesis is deconstructive in nature: my goal, in part, is to critique the version of the causal joint thesis that locates divine action in the nonphysical mind. This deflationary aim challenges not only the standard causal joint model, but also the theological tendency to affirm the mind as nonphysical or somehow "more than" the body. I would even suggest that the thesis' most significant contribution to the field lies in its affirmation that physicalist explanations for the mind can be theologically affirmed. However, achieving this goal (of undermining causal joint models and theologically affirming the physicality of the mind) is dependent on a more constructive argument involving what I call the "theological turn" in science-and-religion. The theological turn, as I will define it, can be taken to indicate the trend in divine action theology that eschews causal joint models altogether, instead reframing divine action and, indeed, nature itself, in theological, metaphysical frameworks. As will become clear, representatives of the theological turn argue that only by questioning the metaphysical assumptions undergirding standard models of divine action can a theologically adequate, compatibilist model of divine action be developed. The reverse is also true: only by embracing a more theologically robust model of the God-nature relationship can standard causal joint models be rendered theologically unnecessary. In short, the theological turn (and, in particular, a robust theistic naturalism) may provide much-needed alternatives to scientifically implausible and theologically insufficient causal joint models.

The theological turn in science-and-religion, and particularly in divine action theology, is perhaps best described as a reaction to the metaphysical assumptions implicit in standard noninterventionist, incompatibilist causal joint models. As will be discussed in the next chapter, the standard causal joint approach presumes that nature is, by default, autonomous and self-sufficient apart from God's ongoing, active presence. Similarly, the laws of nature are generally treated as having prescriptive, ontological status, which in turn establishes the parameters within which divine action might lawfully occur. Within this presumption of autonomy, divine action from the "outside," as it were, is almost inevitably viewed as aberrant and in need of justification: "It is as if for God to act in the world, something in the world has to move over to make room for God to act."[35] It is almost as if God and natural processes are competing with each other, and God is only able to act within specific undetermined natural processes. The clear assumption

[35] Andrew Porter, *By the Waters of Naturalism: Theology Perplexed Among the Sciences* (Eugene, OR: Wipf and Stock Publishers, 2001), 2.

in the standard causal joint model is that the sciences are the final arbiters not only of what is true about nature, but of what God can do in nature. This common assumption in science-and-religion has led to all the various ways that scholars have sought to harmonise theological affirmations with scientific knowledge; the expectation is that one must not "question the 'science' side of the conversation, and in particular, one not ruin the party by calling into question the governing naturalistic assumptions of science."[36] For their part, of course, causal joint theorists would argue that they are merely attempting to take scientific knowledge seriously and to recognise empirical knowledge as God-given and to be respected when one develops, say, a theory of divine action. After all, seeking traction on such issues as divine action would seem to be the raison d'être of the science-and-religion field, and "to argue that God works against the laws of nature, or suspends them temporarily, would make the concept of God inconsistent."[37] Asserting that God acts in a way that seems at odds with the laws of nature, then, would seem to undermine much of what the field is about. Causal joint theorists would thus assert that they are acting in good faith when they require divine action to conform to scientific knowledge. A more generous assessment would be that causal joint theorists are trusting that scientific knowledge is from God; therefore, divine action must not contradict what has been revealed by the "book of nature."

In any case, standard divine action theorists attempt to affirm SDA and scientific knowledge at the same time; philosopher Taede Smedes asserts that "contrary to what we might expect, the context in which the contemporary dialogue takes place is very much determined by scientistic presuppositions."[38] It is perhaps ironic, then, that those in the theological turn dismiss these theories as both theologically insufficient *and* scientifically implausible. Indeed, the theological turn is marked by the assertion that causal joint theories are entirely wrongheaded, and that standard divine action theorists are seeking scientific answers to theological questions. In other words, the theological turn is just that movement within science-and-religion that seeks to recognise the boundaries of scientific knowledge and reframe both nature and divine action in explicitly theological terms. The theological turn challenges the notion that nature's default state is devoid of divine action, and its advocates would agree with theologian and philosopher Aubrey Moore that "a theory of occasional intervention implies as its correlative a theory of

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[36] James K. A. Smith, *Thinking in Tongues: Pentecostal Contributions to Christian Philosophy*, Pentecostal Manifestos (Grand Rapids, MI: Eerdmans, 2010), 87.

[37] Taede Smedes, "Beyond Barbour or Back to Basics? The Future of Science-and-Religion and the Question for Unity," *Zygon* 43, no. 1 (2008): 243.

[38] Smedes, "Beyond Barbour," 253.

ordinary absence."[39] Indeed, while causal joint theorists debate interventionism and noninterventionism, both of these models presuppose the God-world model in which nature's norm excludes divine activity. The theological turn, however, urges a re-examination of nature itself, such that "the ontology of divine action determines the understanding of the laws of nature, rather than the other way around."[40] In other words, the theological turn urges an approach to divine action in which both God's activity and the natural world are defined theologically, rather than scientifically – science itself cannot define the basic ontology of nature, nor can it define the basic God-nature relationship.

Among those in the theological turn who would critique the standard approach to divine action, some have begun to constructively and explicitly articulate theological models that purport to affirm both scientific knowledge and a robust account of divine action. I will call these theological models "theistic naturalisms," as they purport to give a fuller definition of the natural world than does scientistic naturalism as generally understood.[41] It is important to note that theistic naturalism, as I will use it here, is not to be confused with more deistic forms of religious naturalism that render divine action as subjective experience of otherwise scientifically explainable processes. Rather, theistic naturalism is here taken to indicate a position that affirms the natural world as being always involved with an immanent, active God: to be natural is to participate in God's active presence. As Orthodox theologian Christopher C. Knight argues, the "naturalism" part of theistic naturalism works only if it is understood as being related to ontology (rather than an epistemology based on current scientific knowledge), which is "far more complex than the kind of picture favored by most who think of themselves as naturalists….What they call naturalism is…in fact no more than subnaturalism."[42] Indeed, "true naturalism must go well beyond what a subnaturalism of this kind is able to say…Only in the context of what has been revealed to us by God can the universe in which we live be fully understood."[43] Within theistic naturalism, broadly defined, nature itself can only be fully known when an account is

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[39] Aubrey Moore, *Science and Faith* (London: Kegan, Paul, Trench, and Co., 1889), 73. Though causal joint theorists do not explicitly endorse the sort of intervention envisioned by Moore, the noninterventionist model itself does presume the same quasi-deistic metaphysic as interventionism (this will be discussed in later chapters).

[40] Niels Henrik Gregersen, "Special Divine Action and the Quilt of Laws," in *Scientific Perspectives on Divine Action: Twenty Years of Challenge and Progress*, eds. Robert John Russell, Nancey Murphy, and William R. Stoeger, S. J. (Vatican City State: Vatican Observatory Publications, 2008), 194.

[41] By "scientistic," I indicate the position affirming empirical scientific methodology and practice as the prime, or even only, guide to reality.

[42] Christopher C. Knight, *The God of Nature: Incarnation and Contemporary Science*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 2007), 95.

[43] Knight, *The God of Nature*, 95.

given of the God-nature relationship – including, importantly, divine action. Within theistic naturalism, divine action is seen not as unnatural or unlawful, but as serving to make nature even *more* natural, at least in the sense of becoming more like what God has intended it to be. It is apparent, then, that while theistic naturalism incorporates the whole of scientific knowledge into its ontological picture, it draws on specific theological frameworks to understand nature and God's action in nature.

While there are potentially a great many different versions of theistic naturalism (as I understand it[44]), Part Two of this thesis will focus on three distinct theological versions of theistic naturalism, particularly as they relate to divine action in the mind. These three theological models involve Thomistic theistic naturalism (Chapter 7), panentheistic naturalism (Chapter 8), and pneumatological naturalism (Chapter 9), respectively. My goal is not to argue for one specific model of theistic naturalist divine action, but to demonstrate the strengths, weaknesses, and commonalities of these non-causal joint approaches to divine action in the mind. Namely, all three models reject the metaphysical premises on which the standard causal joint model is based, argue for a compatibilist account of divine action, and insist that physicality is utterly unthreatening to theology and divine action. In fact, by insisting that *all* physical realities are always and already involved and interacting with God, these theistic naturalisms are well-poised to embrace naturalistic accounts of the human mind. Within these models, the physicality of the mind is not threatening, for the immanent God is fundamentally involved with all physical processes to begin with. Expounding upon this meaning of "involved" will be the major task of Part Two of this thesis. While I will argue that theistic naturalisms do indeed face serious challenges (namely regarding their potential lack of real engagement with the natural sciences), I yet suggest that they represent a more promising direction for divine action theology than that offered by the dominant causal joint approach.

1.5 Scope and Importance

In sum, then, this thesis identifies and addresses a particular problem in science-and-religion's dominant approach to divine action in the mind. Namely, causal joint approaches in general, and proposals dependent on a nonphysical, uniquely spiritual mind in particular, are both

[44] Past and present usages of the term "theistic naturalism" will be discussed in Part 2.

scientifically implausible and theologically inadequate. This thesis critiques the standard model of divine action by applying rigorous scientific and theological scrutiny to the particular divine action model privileging the mind as uniquely nonphysical. In addition, the thesis explores and critiques various models of theistic naturalism, which promise to offer theological frameworks that actually welcome the physicalisation of the mind – precisely because all physical processes are involved with God's active presence in the first place. This thesis' goals can thus be conceptualised in the following research questions:

1) Regarding the version of the causal joint model that locates divine action in the nonphysical mind: To what extent is this model scientifically plausible and theologically adequate?
2) To what extent does theistic naturalism instead offer a theologically robust account of divine action in the naturalised mind?

Thus, this thesis' contribution to the science-and-religion field is twofold: 1) It applies much-needed critique to the version of the causal joint model that privileges the mind as uniquely spiritual, and 2) It offers a more constructive approach to divine action in the mind by suggesting theistic naturalism as a theologically robust and scientifically acceptable model.

Given the inherently interdisciplinary and potentially wide-ranging nature of this science-and-religion thesis, I have had to be exceedingly selective in the topics addressed. As mentioned, very little attention is paid to the history of the philosophical, theological, and scientific ideas with which this thesis deals. This is of course regrettable, but the widely available scholarship on such histories would render its inclusion here unnecessary and potentially distracting. Additionally, it is readily apparent that a great many theologians and philosophers have been excluded from the scope of this thesis, particularly in the more constructive chapters of Part Two. Again, this is regrettable, but my hope is that sustained attention to the selected theological paradigms will be more helpful and demonstrative of my argument than would a cursory overview of a wider selection. Finally, one potential critique of this thesis is that it attempts to deal with a broad range of issues (e.g., divine action, consciousness, theistic naturalism), thus jeopardising the intellectual rigour necessary for such a work. While I have been continually aware of this danger, I maintain that my specific argument is inherently multifaceted, requiring a tightly-woven structure that involves several important threads. I have found that these various subject threads are each

necessary to my larger argument, and have thus attempted to be as comprehensive as possible in my treatment of each, given the space constraints of this project.

1.6 Outline and Methodology

This thesis is divided into two parts. The purpose of Part One is to offer a sustained critique of the mind-based causal joint approach to divine action. To this end, Chapter 2 examines what I call the "standard" causal joint model, with particular focus on three debates shaping the divine action conversation: interventionism/noninterventionism, compatibilism/incompatibilism, and prescriptive/descriptive laws of nature. The goal of this chapter is to highlight the metaphysical presuppositions underlying prominent divine action models, as well as the scientific implausibility of such models. Chapter 3 then examines Philip Clayton's emergent mind proposal, which uses emergence theory to locate and constrain divine action in the uniquely nonphysical human mind. I argue that Clayton's proposal is not only scientifically implausible, but also presupposes the same dubious presuppositions examined in Chapter 2. Chapter 4 then goes further into the philosophy of mind, examining and critiquing the so-called "Hard Problem of Consciousness." Chapter 5 continues this sustained analysis of the mind, examining physicalist approaches to consciousness that, at the very least, offer alternatives to pessimistic conclusions about the mind's supposed inexplicability. Overall, Part One argues that causal joint proposals privileging the mind are scientifically implausible, relying on unnecessary philosophical and theological assumptions about consciousness and the God-nature model, respectively. In other words, Part One uses consciousness as a test case demonstrating the insufficiency of standard divine action models, arguing that the mind is neither uniquely nonphysical nor uniquely open to divine action.

Part Two of this thesis is intended to be more constructive than Part One. While Part One challenges Clayton's emergent mind proposal, the Hard Problem of Consciousness, and the apparent necessity of a nonphysical mind more generally, Part Two explores more constructive ways to think about divine action in the mind. Specifically, Part Two argues that the mind need not be uniquely nonphysical in order for one to develop a robust account of divine action in human consciousness. In other words, Part Two provides a theological rebuttal to the approach that would privilege the human mind as uniquely open to divine action: precisely because *all* nature is inherently involved with God's active presence, one can affirm divine action in a far

more expansive way than suggested by the standard model critiqued in Part One. While Part One challenges both the Hard Problem of Consciousness and noninterventionist, incompatibilist models of divine action, Part Two provides a theological argument that this naturalisation of the mind need not be theologically threatening. Indeed, the mind may, after all, be a site of particularly intense divine action, but for very different reasons than those assumed by Clayton and other nonphysicalists – and not to the exclusion of divine action elsewhere in nature.

To this end, Chapter 6 introduces the complicated subject of naturalism, highlighting the various arguments surrounding naturalism, supernaturalism, physicalism, and the boundaries of science. This philosophical analysis sets the stage for Chapters 7-9, which move the discussion of naturalism into explicitly theological territory. These chapters form a three-part exploration of specific forms of theistic naturalism, identifying relative strengths, weaknesses, and commonalities. Chapter 7 discusses Thomistic divine action, suggesting that while it is essentially the "gold standard" of theistic naturalist divine action, its formulation of double agency is problematic. Chapter 8 highlights the panentheistic naturalism of Christopher C. Knight, which uses an Eastern Orthodox framework to emphasise both God's immanence and the possibility of divine action through atemporal laws of nature. Chapter 9 then engages with pneumatological naturalism, an approach insisting that nature is what it is by virtue of the Spirit's involvement in all of nature at all times. Throughout these three chapters, I also suggest ways in which theistic naturalism does indeed suggest the mind as a particularly vital locus of divine action, but for very different reasons that those assumed by causal joint theorists.

In sum, this thesis challenges Saunders' claim that contemporary theology (and, particularly, divine action theology) is in crisis. While the standard model of recent decades has been unsuccessful both theologically and scientifically, specific theological traditions offer rich resources with which to reframe divine action in an explicitly theological model. Such models do not require that the mind be more than physical in order to allow for divine-human interaction, for the physical itself is not unspiritual. By re-examining the concept of nature itself, science-and-religion is freed up to become audacious in its acceptance of physicality – not in a way that explains away or minimises divine action, but in a way that actually allows for a more robust account of divine action than that afforded by standard models of recent decades.

Chapter 2

Contemporary Divine Action Theories and the Causal Joint

2.1 Introduction

In Chapter One, I introduced Nicholas Saunders' claim that insofar as it requires an affirmation of ongoing divine action, Christian theology is in a "state of crisis." On the one hand, contemporary science has arguably proved to be the most successful knowledge-seeking endeavour in human history. Scientists consistently offer increasingly nuanced explanations for phenomena previously considered to be inherently mysterious or even spiritual. For many, science is even considered the final arbiter of all truth claims about reality. At the very least, it is increasingly difficult and arguably unwarranted to make theological claims running contrary to the body of knowledge developed by the natural and social sciences. Christian theology is committed to certain doctrinal affirmations that may not always appear consistent, or at least demonstrable, with current scientific knowledge. This is perhaps most true in the case of divine action: the more that scientists learn about the laws of nature and physical mechanisms, the more difficult it becomes – for many – to affirm that God actually does things in the natural world. On the other hand, however, a robust Christian theology requires an account of God's personal, continual interaction with not only human persons, but the whole of nature. A theological retreat into deism is an unsatisfactory response to scientific knowledge, insofar as it abandons much of what Christian theism has traditionally valued. As introduced in the previous chapter, this has led many in the science-and-religion field to seek ways of affirming both scientific knowledge and theological claims of divine action.

In recent years, the focus of this traction-seeking endeavour has often been human consciousness. For scholars such as Philip Clayton, the human mind is considered to be ontologically open to divine influence, and underdetermined by physical processes. This is an immensely appealing proposal for science-and-religion theorists wishing to marry divine action theology with scientific knowledge; if the mind is ontologically open to supernatural influence, then we might be able to have the best of both worlds. While the specifics of Clayton's divine action proposal will be examined in the next chapter, it is worth flagging up this proposal here as an example of what is likely the most common way of dealing with the problem of divine action:

appropriating poorly understood or seemingly underdetermined areas of the natural world as causal joints between God and the natural world.[1] The causal joint has become somewhat infamous in science-and-religion (for reasons that will become clear), but it is a useful lens through which to examine and compare various divine action theories and, I suggest, a necessary problem to address in any approach to divine agency. Essentially, the causal joint is that theoretical nexus at which divine intentions meet natural processes to bring about specific events. If God is transcendent and independent of physical processes, then any action within the natural world must necessarily involve some form of interaction between created and uncreated realities. If nothing else, the causal joint is a useful way to understand various divine action theologies, whether or not individual scholars themselves would consider their respective models to be causal joint theories, as such.

In this chapter, then, I will use the causal joint as a lens through which to understand the contemporary divine action scene in recent decades. I suggest that the contemporary divine action discussion is largely framed by three intersecting debates: interventionism versus noninterventionism, prescriptive versus descriptive interpretations of the laws of nature, and compatibilism versus incompatibilism. By examining what is at stake in each of these debates, one can begin to understand how the divine action debate is often framed by implicit metaphysical assumptions about the God-nature relationship. In particular, I argue here that standard divine action theories strive to be noninterventionist, are basically incompatibilist, and often involve a rather confused commitment to the laws of nature. This has rendered the standard approach to divine action as one seeking underdetermined causal joints in which God is "allowed" to act without contradicting Godself. In this view, Clayton's emergentist divine action proposal (which privileges the mind as especially underdetermined) can be viewed as the latest iteration of the causal joint model. After exploring these three divine action debates, I discuss the classic test case of quantum divine action as an approach highlighting these three debates. After demonstrating the scientific insufficiencies of standard causal joint models, I highlight the metaphysical assumptions framing the debates in the first place. In particular, I argue that standard divine action theories depend on highly questionable, question-begging assumptions about the basic God-nature model, and are dependent on a tenuous theological commitment to a somewhat deistic model of God. Alternatives to these metaphysical assumptions will be

[1] Although, as will be discussed in the next chapter, Clayton himself does not agree that he is relying on a "God-of-the-gaps" approach, but rather argues that his model is an extrapolation of scientifically-identifiable emergent processes.

examined in Part Two of this thesis; in this chapter, I lay the necessary groundwork by examining the reigning debates and uncovering the metaphysical assumptions framing the debates themselves. Then, in the next chapter, I demonstrate how Clayton's model in particular is the latest version of the standard model critiqued here. This chapter is thus meant as an overview of the standard causal joint scene, and an introduction to the theological weaknesses that will be addressed throughout the rest of this thesis.

2.2 Standard Approaches to Divine Action: Three Debates

The science-and-religion conversation on divine action has often been focussed on the search for scientifically plausible causal joints in underdetermined areas of the natural world. In particular, theorists have targeted the areas of chaos theory, quantum mechanics, emergence theory, and complexity theory; the supposition has often been that such natural features involve ontological points of indeterminism wherein God might act without violating the laws of nature that God presumably established in the first place. At the heart of this divine action discussion has been the so-called Divine Action Project, as mentioned in Chapter 1. Its goal was to investigate the question of how, exactly, a transcendent God might interact with physical processes to bring about specific actions in the natural world – in other words, this was very much a causal joint project. Because of the sheer number and diversity of prominent contributors to the DAP, as well as its length and academic output, it is unsurprising that the DAP has largely defined the trajectory and parameters (philosophical, metaphysical, and methodological) of the divine action conversation – and perhaps the science-and-religion field more broadly.

The DAP was optimistic in both tone and content, endeavouring to positively address concerns about the future of divine action theology. The idea was to evaluate specific possible points of contact between divine intention and the natural world, drawing upon the expertise of leaders in the fields involved. While there were many theological, scientific, and philosophical debates involved, something of a consensus approach to divine action gained prominence over time. This consensus approach, I suggest, is best understood in reference to three key debates: interventionism versus noninterventionism, the laws of nature, and compatibilism versus incompatibilism. As I will argue, the DAP both implicitly and explicitly sided with a noninterventionist, incompatibilist approach to divine action, and assumed something of a

reified view of the laws of nature (more on this below). Wesley Wildman affirms that many participants in the DAP were convinced that God would only act in a way that preserved "created structures of order," and affirmed that "a noninterventionist special divine act is in accord with created structures of order and regularity within nature, while an interventionist special divine act involves abrogating, suspending, or ignoring created structures of regularity within nature."[2] What is striking in this consensus approach, and which will be discussed further below, is how these affirmations presume certain metaphysical assumptions about the laws of nature, the question of intervention, and the God-world relationship more broadly. Given that the DAP has been so influential in shaping divine action theories, it is important to understand and evaluate the three debates underlying the DAP's consensus.[3]

2.2.1 *Interventionist versus Noninterventionist Divine Action*

Does God intervene in the laws of nature to act specifically in the natural world? While I will argue throughout this thesis that this question is ill-conceived and incorrectly framed, it remains one of the standard questions asked in divine action debates. In fact, this question of interventionism is something of a starting point for divine action debates, and one's position here largely determines one's position on the causal joint and divine action more broadly. Namely, a commitment to noninterventionist divine action commits one to the existence of a causal joint, and generally limits affirmations of divine action to identifiable areas of physical underdetermination. In other words, noninterventionism implies that divine actions are so aligned with physical processes that theoretically they could have occurred whether or not God was involved – they do not imply a violation of the laws of nature. It is worth noting, however, that it is misleading to call *any* divine action "noninterventionist," insofar as the fact of divine action introduces a reality that would have been otherwise if God had not engaged in that action. Christopher Knight explains this well: "The mainstream 'noninterventionist' model has not, then, abandoned interventionism in the widest sense of the term…it is still presumed that there are two possible outcomes to any given situation."[4] While this may seem like a minor semantic

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[2] Wildman, "The Divine Action Project," 38.

[3] The DAP's consensus was not universal. There are notable exceptions to every generalisation articulated by Wildman and myself, respectively. Indeed, Section 2 will elaborate on some of the alternative voices in the DAP – namely, those that questioned the noninterventionist paradigm, queried an ontological understanding of the laws of nature, urged a compatibilist approach, or offered alternative models of God (e.g. panentheism). And, of course, the DAP does not represent all science-and-religion scholars; I highlight this project because of its immense influence on the divine action conversation in particular.

[4] Christopher C. Knight, "Theistic Naturalism and 'Special' Divine Providence," *Zygon* 44, no. 3 (2009): 534.

point, it is important to recognise that we do not simply choose between scientifically plausible noninterventionist divine action on one hand, and blatantly unscientific interventionist divine action on the other. This is an issue of mechanism and degree, rather than an interventionism/noninterventionism binary.

In any case, the question of intervention is pressing indeed; contemporary science has been so remarkably successful in providing natural explanations that one might wonder whether theists are warranted in affirming divine actions that seem to violate known laws of nature or what is commonly known as the "causal closure principle." The causal closure principle, put simply, is the idea that all physical events have physical causes; put conversely, no nonphysical causes can cause events in the natural world. This will be discussed further, but here it can be said that at the very least, the causal closure principle is a methodological assumption for working scientists – and at most a metaphysical premise about what sorts of things are possible in the world. While most theologians reject metaphysical naturalism,[5] methodological naturalism and the causal closure principle are crucial to the actual practice of science; science works only because it looks beyond apparent mysteries and insists upon continual theorising and testing until satisfactory natural explanations are available. If nothing else, scientists must at least treat all phenomena as if they have natural causes. Because of the efficacy of scientific methodology, it is worth questioning whether it makes theological sense to speak of God intervening in the known laws of nature. Not only might such intervention undermine scientific efficacy, but it might also be an inadequate response to the most successful knowledge-seeking enterprise known to humanity. Because of this, those in the science-and-religion field express a commitment to scientific knowledge as a necessary aspect of their theological reasoning – if we know that physical processes predictably and reliably work in a certain manner according to physical laws, does it make sense to promote an account of divine agency that undermines those laws of nature? A great many divine action theorists (including those in the DAP) would affirm Clayton's "presumption of naturalism" when examining *any* phenomenon, dismissing interventionism as a theologically viable option.[6]

[5] Nonstandard Christian models of God, such as panentheism, may allow for affirmations of metaphysical naturalism. See Part 2 for more on this.

[6] Philip Clayton, *God and Contemporary Science*, Edinburgh Studies in Constructive Theology (Edinburgh: Edinburgh University Press, 1997), 171.

Related to these concerns regarding consistency with scientific knowledge, many divine action theorists have theological qualms with interventionism as well. Namely, many hesitate to affirm a theory of divine action that would seemingly position God in competition with the physical systems and laws that God established in the first place. As Smedes explains this concern:

> To argue that God works against the laws of nature, or suspends them temporarily, would make the concept of God inconsistent. If in general providence God acted continuously through the nexus of secondary causality in accord with the laws of nature, and if at the same time God worked against these laws by putting them temporarily out of order, the action would be internally inconsistent: God's special action would work against God's general action.[7]

This, in a nutshell, is the main theological concern with interventionism. Within science-and-religion and the DAP more specifically, it is rare for a scholar to defend interventionist divine action (exceptions will be noted below). The prevailing consensus in the field is that if God acts in nature, it must not be in opposition to the natural order established by God in Creation; interventionism would seem (at least on the face of it), to violate the internal coherence and consistency of a theistic God. Here it is important to note a crucial distinction Smedes makes in regards to two modes of divine action: general and special. He and most others in the field equate general divine action with God's establishment and upholding of the laws of nature. Few would take issue with this mode of divine agency, as it is basically a deistic conception of action – God created the laws of nature, and is indirectly acting by faithfully preserving these laws.[8] In addition to this minimalist mode of divine action is special divine action, or the affirmation that God performs specific actions to address specific situations. SDA is generally considered to be a different sort of divine action than GDA, and is certainly seen as more threatening to a scientific worldview. Perhaps surprisingly, these distinctions between SDA and GDA are generally assumed, and challenged only infrequently. Thus, it is helpful for our discussion of the causal joint and divine action to examine GDA and SDA a bit more closely.

As noted in the previous chapter, within science-and-religion divine action is usually thought of in three categories: general divine action, special divine action, and miracles.[9] GDA affirms that

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[7] Smedes, "Beyond Barbour," 243.

[8] As will be discussed in Chapters 6 and 7 (namely in discussion with the work of Christopher Knight), some scholars deny that GDA is an insufficient description of all theistic divine action.

[9] Notably, the focus in recent decades has been conspicuously on GDA and SDA; for the most part, miracles were partitioned off from the stated research purview of DAP participants. Because miracles are often defined from the outset as occurring outside of the laws of nature (neither in accordance with or in contradiction to these laws), they have been largely ignored by causal joint projects seeking to align divine action theology with the

God is somehow behind or responsible for the physical regularities that sustain the natural universe and allow creation to flourish. Because GDA does not involve God acting specifically in nature, or in contradiction to "the way things would have been otherwise," it is basically the case that science could never disprove GDA. That is, almost by definition, it would be impossible to prove that God was not sustaining the laws of nature. GDA simply affirms God as the source and sustainer of the law-governed world – hence GDA is the sort of divine action affirmed by deists. Thus, GDA is essentially a theological restatement of the laws of nature (as they are understood by contemporary science at any given time), and is often considered a relatively "safe" affirmation in science-and-religion. Moreover, those affirming GDA generally deny the need for a causal joint; because God simply creates and sustains physical laws and does not interact with them in "real time," there is no need to posit a specific mechanism by which God acts especially within the natural world.[10]

What most theorists mean by divine action, however, is *special* divine action, or intentional, specific, and responsive divine action that presumably departs from the "default" scenario of what would have occurred had God not chosen to act at a given moment. It is fair to say that SDA has been the main focus of divine action theories in recent decades (again, exceptions to this will be discussed below). Importantly, SDA is not to be conflated with miracles, which generally have been assigned a separate category in science-and-religion. This seems largely to be due to the Humean definition of miracles as violations of the laws of nature – there simply has not been much of an appetite in the field for rigorous discussions of a category of divine action that ignores science altogether.[11] Rather, SDA generally refers to divine action occurring in and through natural processes, but in response to specific circumstances (contrary to GDA). Because SDA is thought to occur via natural processes, and *not* in contradiction to them (contrary to miracles), SDA requires some sort of causal joint wherein this influence might occur. Thus, the particular focus of the DAP was the development of proposals utilising specific, underdetermined areas of the natural world where God could effect change without violating the laws of nature. This focus stems from a dual commitment to both scientific knowledge of physical processes, and theological affirmations of divine action. There is thus a great deal of

known laws of science. Hence, miracles as such will not be discussed here – though Part 2 will question whether the distinctions between GDA, SDA, and miracles are necessary.

[10] However, one could argue that even GDA requires some sort of causal joint: How, exactly, does God sustain the laws of nature? What is the relationship between God and the basic "stuff" of the world? It seems that any contact between a transcendent God and the finite world must necessarily involve some sort of ontological relationship between the two.

[11] Wildman, "The Divine Action Project," 38.

motivation to identify scientifically plausible causal joints, as this allows one to have the best of both worlds – credibility in both science and theology. To put this clearly: the language of SDA is utilised by those committed to noninterventionist divine action, and is accompanied by the need for specific, underdetermined causal joints. Note the implication of this – SDA theorists assume that *science* has the power to determine the purview of divine agency and the mechanisms by which it might occur. The noninterventionist SDA framework implicitly acknowledges science as the final arbiter of where and how God can interact with creation. As we will see below, this implicit assumption is actually a necessary conclusion of the arguable way noninterventionism is framed in the first place. Indeed, the distinctions between GDA, SDA, and miracles will be challenged throughout this thesis as potentially arbitrary and/or unnecessary. Meanwhile, the main idea here is to highlight that these distinctions are necessarily involved with noninterventionist commitments.

Indeed, there is a direct relationship between SDA, the causal joint, and noninterventionism. Noninterventionist SDA theorists attempt to find scientifically plausible areas of nature (i.e., causal joints) wherein God can act without violating the laws of nature. It is evident that this approach privileges scientific knowledge and requires divine action to be at least congruent with the known laws of nature; this essentially renders the sciences as "objective arbiters of 'the way things really are.'"[12] It is helpful to make these relationships clearer: once one prioritises scientific knowledge, it is but a short step to a commitment to noninterventionism. Once noninterventionist divine action is affirmed, one is at least committed to the existence of a causal joint where God can act without intervening – whether or not this causal joint is identifiable. In other words, if one begins with a commitment to a noninterventionist framework, the only option left for an affirmation of divine action is to posit SDA through natural processes themselves. For DAP participants and those influenced by the Project, the goal has been to affirm divine action by hypothesising about the specifics of this causal joint. Another way of stating this logical progression is from the scientific side of things: scientists are methodologically committed to the causal closure principle, affirming that all physical events have physical causes. By prioritising scientific knowledge in divine action theologies, theorists are committing themselves to a form of divine action that does not violate the causal closure principle. Thus, if God is to act in a noninterventionist manner, this agency must be effected at a physical level

[12] James K. A. Smith, "Is the Universe Open for Surprise? Pentecostal Ontology and the Spirit of Naturalism," *Zygon* 43, no. 4 (2008): 885.

where events are ontologically underdetermined by prior physical causes. Then, one might argue, God can fill this causal vacuum and act, leaving the causal closure principle intact.

It is evident that noninterventionism commits one to the existence of a scientifically plausible causal joint, and DAP participants (and those influenced by them) have put forward a variety of potential candidates: emergence, complexity, chaos theory, and quantum mechanics, to name several of the most popular options. Later in this chapter, I examine the quantum mechanics proposal in particular, as a representative test case of how such causal joint theories work (or do *not* work, as may be the case). What all these causal joint candidates have in common, however, is that their respective proponents emphasise that they are ontologically underdetermined aspects of nature – thus leaving causal room for God to act. Note that such theories assume that science itself is able to locate potential loci of divine action. This is an extremely important point: noninterventionist SDA theories give science significant theological authority, insofar as science is given the power to say where and how divine action can or cannot occur. While SDA theorists seek traction with science in an effort to be intellectually honest and scientifically plausible, they also give science the power to say where SDA is *not* a possibility. As will be discussed in Chapter 3, emergence theorists have been critiqued for invoking God in high-level downward causation; physicist and theologian John Polkinghorne's appropriation of chaos theory has been largely undermined as a misconstrual of the relevant physical processes;[13] and (as we will see shortly) quantum mechanics proposals have been often rejected as scientifically implausible and even interventionist. In other words, a commitment to noninterventionist divine action renders theologians subject to current scientific knowledge, inviting the charge that they are committing the dreaded error of "God of the gaps" theorising. There is more than a hint of irony in noninterventionist positions: SDA theorists generally defend a strong theological affirmation of traditional theistic notions of divine activity in the world, but do this by making current science the final determinant of whether and how this activity actually occurs. Indeed, by identifying specific causal joints in the natural world, SDA theorists become vulnerable to the ever-increasing specificity of scientific explanations. As mathematician and religious writer Charles Coulson once wrote, "There is no "God of the gaps" to take over at those strategic places where science fails; and the reason is that gaps of this sort have the unpreventable habit of shrinking."[14]

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[13] For example, see Taede Smedes, "Chaos: Where Science and Religion Meet? A Critical Evaluation of the Use of Chaos Theory in Theology," in *Studies in Science & Theology 8: Yearbook of the European Society for the Study of Science and Theology 2001-2002*, ed. Niels Henrik Gregersen, Ulf Görman, and Hubert Meisinger, 277-294. Aarhus, Denmark: University of Aarhus, 2002.

[14] Charles A. Coulson, *Science and the Idea of God* (Cambridge: Cambridge University Press, 1958), 32.

By identifying specific causal joints for SDA, noninterventionists are essentially betting that processes currently deemed ontologically underdetermined will not be explained otherwise by future scientific analysis.[15]

While noninterventionism has certainly been the position of choice for divine action theorists, interventionist divine action is not without its proponents. For example, philosopher Alvin Plantinga argues for interventionist divine action, pointing out that noninterventionist positions rely on underlying assumptions about how the world must work. Plantinga rejects the causal closure principle, pointing out that it is an assumption, rather than a proven scientific conclusion. About those who presume the causal closure principle as the basis not only for science but divine action theology as well, Plantinga writes that "they could stop just assuming the existence of an unbroken causal nexus in the world, a nexus that precludes special divine action, and instead ask themselves whether there is really any reason to think this assumption *true*."[16] In other words, the causal closure principle assumes from the outset that all physical events have physical causes – and, that this is always the case. But if nonphysical causes (e.g., divine action) just are a part of reality, then causal closure is rendered nothing more than a methodological tool for practicing scientists.

Indeed, scientists themselves are methodologically limited to the identification of causal chains in isolated, controlled contexts. Scientific methodology is simply unable to speak to causal possibilities for all reality. So if God (who presumably created all physical processes in the first place) chooses to act outside of scientifically-identifiable causal strictures, science could never prove or disprove this: intervention is not a scientific question. Because science is limited in what it can say about causal processes, intervention is thus undeserving of the pejorative connotations usually associated with the word. Plantinga insists that the causal closure principle is simply a presupposition that is unnecessarily adopted by many theologians, and which leads to insufficient divine action theologies. Plantinga's interventionist position is highly contentious, not least because he might not fully appreciate how important the causal closure principle is for scientific practice. Indeed, one could argue that in rejecting the causal closure principle, Plantinga is

[15] Moreover, there is significant debate about whether underdeterminism really "leaves room" for God in the first place. See Saunders, *Divine Action and Modern Science,* as well as the subsequent section on quantum mechanics in this chapter.

[16] Alvin Plantinga, "What Is 'Intervention'?" *Theology and Science* 6, no. 4 (2008): 373.

effectively rejecting *any* role for science in a theology of divine action. That is, insofar as the causal closure principle is a corollary of methodological naturalism (itself a necessary working assumption for science), it is difficult to discard without simultaneously discarding the role of scientific knowledge in divine action theories. Nevertheless, Plantinga's position is an interesting one – particularly in a theological climate so hostile to interventionist divine action.

In addition to his arguments regarding the limits of scientific methodology, Plantinga argues against common theological objections to interventionism. For example, one widespread assumption in science-and-religion is that interventionism "challenges the concepts of divine faithfulness and self-consistency: how can God uphold the laws of nature with one hand, whilst simultaneously overriding them by performing miracles with the other?"[17] This challenge is reinforced by the GDA/SDA distinction: if God upholds natural regularities in general divine action, would it not be inconsistent for God to counteract those same regularities in special divine action? Plantinga notes that the force of this challenge largely arises from the legal language attending it. When we speak of physical regularities as "laws" and interventionist SDA as "violations," we demonstrate presumptive linguistic habits that might be question-begging. Plantinga challenges such language, arguing that "there would be arbitrariness and inconsistency only if there were no special reason for taking action contrary to the usual regularities; but of course God might very well have such reasons."[18] If God created physical regularities in the first place, and if God's intentions for creation include relationality and divine responsiveness to specific needs, one could thus argue that God's consistency actually requires occasional flexibility in the "laws" of nature. In other words, Plantinga is arguing for a relational perspective on divine coherence; the most internally consistent actions God could take might well require that God act variously in different circumstances. This is analogous to human relationships; a parent's love for his children requires treating each of them differently in unique circumstances, and altering daily regularities in response to specific situations that arise. While one might well reject interventionism, Plantinga's point may be a helpful corrective in a conversation dominated by noninterventionist commitments. Moreover, as Wildman points out, some may find "the inconsistency of miraculous interventionism a small thing, and…the theological hubris of confining God to noninterventionist action a greater danger."[19] While one might assume that noninterventionism indicates scientific credibility, the attendant theological price is worth

[17] Saunders, *Divine Action and Modern Science*, 48.
[18] Alvin Plantinga, "What Is 'Intervention'?," 388.
[19] Wildman, "The Divine Action Project," 38.

considering. My goal here is not to support interventionism (and indeed, I reject the interventionism/noninterventionism binary altogether), but to suggest that noninterventionism is not as obviously superior a choice as many might assume.

2.2.2 *The Laws of Nature*

The interventionist debate revolves around the potential problems of divine violation of the laws of nature, but what do we mean by "the laws of nature"? As mentioned above, talk of "laws" and "violation" implies a legally binding ontology for physical regularities. But is this the best way to think about the predictable and reliable processes we observe in nature and scientific experiments? The classic debate over the ontological status of the laws of nature is generally oversimplified – the distinction is made between the laws as either "prescriptive" or "descriptive." Those who affirm the laws of nature as prescriptive hold a very high view of their ontology; the laws possess an independent, idealised status and "ontologically *determine* which possibilities are open to the world and which are not."[20] Because these prescriptive (or necessitarian) laws describe "certain structural physical necessities," they are thought to delineate where and how divine agency might occur in the natural world.[21] Conversely, a descriptive view of the laws of nature downgrade their ontological status to descriptive regularities that are contingent and nonbinding. Many science-and-religion scholars affirm this descriptive view, which makes sense insofar as it would seem to allow for unfettered divine agency in the physical world. Here, however, we discover an intriguing feature of divine action debates: in actual fact, the entire noninterventionist paradigm to which so many SDA theorists subscribe actually presumes a prescriptive view. Indeed, if so-called laws were merely descriptions of contingent regularities, the interventionism/noninterventionism debate would be nullified. That is, the idea of intervention *requires* an ontological, prescriptive view of physical laws; otherwise, there would be no laws for God to violate in the first place. This evident confusion about the laws of nature needs to be examined more closely.

It is apparent that, as theologian Niels Henrik Gregersen notes, the prescriptive "concept of the laws of nature serves as a foil for shaping the idea of non-interventionist SDA."[22] There would

[20] Saunders, *Divine Action and Modern Science*, 66.
[21] Ibid.
[22] Gregersen, "Special Divine Action and the Quilt of Laws," 191.

be no concerns about divine violation of the laws of nature if one were not presuming that those laws are static, idealised strictures that dictate what can and cannot happen in the world. This is where the issue of indeterminism becomes important. While a full discussion of determinism and indeterminism is impossible here, it is important to emphasise that indeterminism is a crucial component of noninterventionist SDA theories. If, as is evident, noninterventionism implies a prescriptive, ontological view of the laws of nature, then the only possibility for SDA lies in areas of the natural world that are underdetermined by physical laws. So, for example, quantum divine action theorists propose that quantum indeterminacy is an ontological feature of reality, and thus that no laws are violated if God acts at the indeterminate quantum level. This proposal is discussed and critiqued below, as it is a paradigmatic example of how noninterventionist SDA theorists proceed more generally: by assuming that the laws of nature are reified and closed to divine influence, and then identifying aspects of the causal web that seem not to be completely determined by constraining prescriptive laws. These areas of underdeterminism are then identified as potential causal joints between God and natural processes. Again, one implication of this is that science is given the authority to determine the parameters of noninterventionist SDA – it is the prerogative of the physical sciences to identify which phenomena and processes are underdetermined.

This necessitarian view of the laws of nature is assumed by many scientists, philosophers, and science-and-religion scholars, and this is not without reason. After all, the success of the scientific method depends on the consistent repeatability, falsifiability, and verification of seemingly preexisting physical regularities. Given past and present explanatory success, and the appearance that mathematics and science are discovering (rather than inventing) underlying laws of nature, it might make sense to have a high view of physical laws. And indeed, DAP-style divine action theorists have often assumed a necessitarian model of physical laws, and sought to identify particular loci of underdeterminism.[23] However, while divine action theorists often presume a necessitarian view, they often do not recognise or acknowledge that they are doing so. Again, the entire noninterventionist project presumes that physical laws hold a prescriptive, idealised status – otherwise, intervention would literally not be a possibility. Divine violation of physical laws is a coherent idea only if those laws are prescriptive in the first place. And yet,

[23] Specific challenges to this method have been well-described by Saunders and others; critiques often highlight how divine action in underdetermined areas would actually involve intervention, and would also be scientifically implausible in actual fact – this is discussed below in the section on quantum mechanics.

many theorists endorse the view that physical laws are descriptive – and not prescriptive.[24] For example, Russell (largely responsible for developing quantum divine action approaches) seeks to identify quantum processes as indeterminate and open to divine action. Yet at the same time, he writes, "I tend to view the laws of nature in the latter, descriptive sense."[25] This common tendency to presume a prescriptive view and still claim the descriptive position is one of the most fascinating (and confusing) aspects of divine action debates. Again, if the laws of nature really are mere descriptions of physical regularities, then there is no need to search for a causal joint in the first place. Indeed, the descriptive view would render unnecessary and even incoherent the theological search for underdetermined causal joints.

Theorists affirming the descriptive view find it understandably appealing, insofar as it seems to "incorporate enough flexibility and openness to accommodate the intentional actions of God" – the entire natural order would be a single causal joint.[26] But what would it mean for the laws to be descriptive? For philosophers of science, a descriptive account portrays laws as useful descriptors of observed regularities, with the emphasis placed on singular events (rather than on any laws affecting those events). In this view, laws describe what *does* happen, not what *can* happen. Once again, there is plenty of room for SDA in this regularity account of physical laws, for "a broadly applied regularity approach will simply attempt to describe the world on the basis of the different singular events in it, and consequently subsume *all instances of SDA*."[27] If laws are not universally prescriptive, God could simply act in nature – though the specifics of how a supernatural God could affect natural processes would still be unexplained. Similarly, philosopher Nancy Cartwright's "dappled world" approach is close to (but not identical with) a descriptive account. She recognises physical regularities, but only in localised settings; the "laws" are limited in scope – they comprise a so-called patchwork of regularities that holds in specific contexts. That is, they are "descriptions of what regularly happens, not regular associations or singular causings that occur with regularity."[28] Cartwright explains that "some features of systems

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[24] As Wildman notes, "It is certainly true that no theory of SDA proposed within the DAP makes use of" a view wherein the "laws of nature have strong ontological status, in the sense of referring to principles or deep structures of nature that statistically govern each individual even within an ensemble of events." Others were willing to affirm an ontological view wherein laws govern "large ensembles of events but not each individual event." Wildman,"The Divine Action Project," 41.

[25] Robert J. Russell, "Quantum Physics and the Theology of Non-Interventionist Objective Divine Action," in *The Oxford Handbook of Religion and Science*, ed. Philip Clayton and Zachary Simpson (Oxford: Oxford University Press, 2008), 579.

[26] Saunders, *Divine Action and Modern Science*, 49.

[27] Ibid., 62.

[28] Nancy Cartwright, *The Dappled World: A Study of the Boundaries of Science* (Cambridge: Cambridge University Press, 1999), 4.

typically studied by physics may get into situations where their behavior is not governed by the laws of physics at all. But that does not mean that they have no guide for their behavior or only low-level phenomenological laws. They could fall under quite a different organized set of highly abstract principles."[29] In this sort of model, it *might* be theoretically possible that God could affect nature through some sort of lawful process, in certain contexts – but this would likely not be accessible to our current scientific methodology, and it is unclear what such action would even entail.[30] In any case, the main idea here is that anything less than a prescriptive view of the laws of nature would not require noninterventionist divine action – there would simply be no reified laws for God to violate in the first place. What we see, then, is a disjunction between the way many SDA theorists talk about the laws of nature at a metaphysical level, and how they treat them in the development of actual theories. So, for example, we see Russell affirming a descriptive view, but then treating physical laws as prescriptive as he seeks to locate divine action in quantum indeterminacy. At the very least, there is an apparent inconsistency in the way DAP-style divine action theories have handled the laws of nature.

One further distinction might help clarify the confusion surrounding the ontology of physical laws: this is between the laws of nature as they really are, and the known laws of science as currently understood. In this distinction, the laws of nature are those regularities that exist and function regardless of whether we currently understand them. The laws of science, then, are the current formulations of physical regularities as understood by science at any given point. For example, our current understanding of quantum laws may accurately reflect quantum realities, or it may reflect our currently limited knowledge of those processes. It turns out that many divine action theorists speak about descriptive laws of nature, but seem actually to be referring to the known laws of science. This would partially explain why noninterventionists necessarily presume that the laws of nature are prescriptive, but explicitly affirm them as descriptive. Moreover, some theorists actually make conscious use of this distinction between the laws of nature and the laws of science; they develop an "instrumentalist," or approximationist account of physical laws. As astronomer and theologian William Stoeger explains, "'our laws of nature' are much more limited and uncertain than the full range of 'the laws' in themselves…there are also such processes and

[29] Cartwright, *The Dappled World*, 322.

[30] Indeed, Cartwright's model entails a variegated picture of physical regularities, but this would likely not warrant an affirmation that God can then act within this "dappled world" of differing regularities. That is, there would still be an ontological gap between God and the physical world that would need to be addressed. The idea of God working through "higher laws" will be explored in Part 2, though Cartwright herself does not explore such possibilities.

relationships which are in principle beyond the competencies of the natural sciences to investigate and to model."[31] Stoeger thus acknowledges that the known laws of science are limited approximations that basically work well enough, but do not perfectly express the whole truth about the (presumably ontological and idealised) laws of nature. This approximationist view is noteworthy, as it places limits on science's authority in regards to divine action. That is, if philosopher William Alston is correct that "none of our laws take account of all possible influences," then current science cannot preclude the possibility of divine action.[32] For example, divine action might occur via some sort of "higher laws" at a level of reality unknown to contemporary science. Of course, this would simply relegate the causal joint to a law-governed realm beyond the reach of scientific methodology; we would still need an account of how an immaterial God could interact with the laws of nature. Moreover, this approach might be too "easy"; an approximationist account of divine action precludes science from critiquing supposedly hidden causal joints or higher laws.

Notably, this approximationist account of the laws of nature is compatible with both the descriptive and prescriptive approaches. For example, Wildman writes that "assuming God's action conforms to these laws (noninterventionism), they describe not only nature's operations but also God's actions within nature."[33] Here, Wildman affirms noninterventionism and presumes prescriptive laws (insofar as God "conforms" to them), but also speaks of the laws as describing natural *and* supernatural events. Similarly, Stoeger writers that "God may act in a purely 'natural' way…but in a way which we see as supernatural intervention simply because we have not yet come to comprehend fully the relationships and regularities (the 'higher laws') which obtain."[34] Stoeger thus works with a prescriptive view of the laws of nature, and suggests that God's action through those laws is simply beyond our scientific reach. Again, these approaches invite "God of the gaps" critiques, as they simply move the causal nexus between God and nature further beyond the reach of scientific explanation – they do not remove the need for a causal joint in the first place. In any case, the point worth noting here is that one's

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[31] William R. Stoeger, "Conceiving Divine Action in a Dynamic Universe," In *Scientific Perspectives on Divine Action: Twenty Years of Challenge and Progress*, ed. Robert John Russell, Nancey Murphy, and William R. Stoeger, S. J. (Vatican City State: Vatican Observatory Publications, 2008), 237.

[32] William P. Alston, "Divine Action, Human Freedom, and the Laws of Nature," in *Quantum Cosmology and the Laws of Nature: Scientific Perspectives on Divine Action*, ed. Robert J. Russell, Nancey C. Murphy, and C. J. Isham (Vatican City State: Vatican Observatory Publications 1993), 190.

[33] Wildman, "The Divine Action Project," 54.

[34] William R. Stoeger, "Describing God's Action in the World in Light of Scientific Knowledge of Reality," in *Philosophy, Science, and Divine Action,* ed. F. LeRon Shults, Nancey C. Murphy, and Robert J. Russell, Philosophical Studies in Science and Religion (Leiden, Netherlands: Brill, 2009), 124.

perspective on the laws of nature greatly shapes one's understanding of the causal joint. While there is significant confusion in science-and-religion regarding the laws of nature, we can say that the prescriptive view is presumed by noninterventionists relying on ontologically underdetermined causal joints. This is true even when theorists affirm the laws as descriptive, for a merely descriptive account would render the noninterventionist paradigm meaningless and unnecessary. Approximationists occupy something of a third way in this discussion, relegating the causal joint to higher laws that are inaccessible to current scientific methodology (and often without addressing the remaining ontological gap between God and physical laws, no matter how "high"[35]). In any case, how one understands the ontology of the laws of nature significantly affects one's approach to divine action.

2.2.3 *Compatibilism versus Incompatibilism*

A third defining debate for divine action theorists is the question of compatibilism, or whether one can simultaneously affirm both divine action and the causal closure principle. In other words, does it make sense to attribute specific events to divine agency, if there exists an explicable scientific account for those events? Contemporary divine action debates (particularly in the DAP and those influenced by the Project) often assume incompatibilism, or the position that an event is not an instance of special divine action if it is fully caused by identifiable physical processes. In other words, God and the laws of nature cannot be equally responsible for the same event, if that event is to be thought of as *special* divine action. Incompatibilists insist that "in order for God to act, something in the natural order has to give way – hence the active search for irreducible ontological gaps in the causal nexus."[36] In fact, the noninterventionist SDA approach generally assumes incompatibilism – especially insofar as it relies on the search for identifiable points of underdetermination. That is, if compatibilism were correct – if God and physical processes are simultaneously fully responsible for specific events – then there would be no need to identify underdetermined causal joints. Instead, incompatibilists adopt the position that special divine action involves God's involvement above and beyond the known laws of nature. If one can identify precise points of ontological indeterminism where physical processes do not necessitate certain outcomes (e.g., chaos theory, emergence, or quantum mechanics), then God can be properly included as a causal factor in the natural order. Importantly, incompatibilism "enables one to rule out types of special divine action on the basis of our

[35] Christopher Knight may be an exception to this problem with higher laws, as discussed in Chapter 8.
[36] Smedes, "Beyond Barbour," 246.

scientific understanding of the laws of nature – God may only act in a special, direct way in the 'causal gaps' opened by indeterminacies."[37] Here again, we see how the affirmation of noninterventionist, incompatibilist SDA is dependent on current scientific knowledge regarding spheres of physical indeterminacy.

Though many supporters of noninterventionist SDA explicitly affirm incompatibilism (or indeed, *implicitly* presume incompatibilism), compatibilists are certainly active in the divine action conversation. Indeed, as will be demonstrated in Part Two, there has been a recent "theological turn" in divine action theories that privileges compatibilist approaches. For the compatibilist, divine action is "continuous with natural processes, present throughout the whole cosmos and entirely compatible with our descriptions of mathematical behaviour."[38] The paradigmatic expression of compatibilism comes from Thomism, and particularly from the affirmation of double agency: God as primary cause is fully efficacious in all events, even as created secondary causes (i.e., natural processes) are simultaneously fully efficacious. Aquinas expresses this by affirming that "God causes all action, as any active thing is the instrument of divine power acting."[39] God and natural processes work at different levels of reality: God sustains and acts through created processes, but those created processes also have full causal efficacy and even autonomy. That is, "the same effect is ascribed to a natural cause and to God," and both the primary and secondary causes *fully* cause each event. They do not split the workload, as it were, but "the whole effect proceeds from each, yet in different ways."[40] This doctrine of double agency is the framework behind affirmations that God works in and through natural processes – but this framework is not dependent on God acting only through underdetermined natural processes (contrary to noninterventionist SDA, which affirms divine action in and through underdetermined natural processes). Thus, compatibilism is an explicitly theological commitment, and gives no authority to science to determine where or how God might act.

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[37] Stoeger, "Conceiving Divine Action in a Dynamic Universe," 240.

[38] Keith Ward, *The Big Questions in Science and Religion*, Hensley Henson Lectures (West Conshohocken, PA: Templeton Foundation Press, 2008), 260.

[39] Thomas Aquinas, *The Power of God,* trans. Richard J. Regan (New York: Oxford University Press, 2012), 3. 7.

[40] Ignacio Silva, "Revisiting Aquinas on Providence and Rising to the Challenge of Divine Action in Nature," *The Journal of Religion* 94, no. 3 (2014): 285.

Compatibilism has regained quite a bit of traction in recent years (possibly in reaction to the DAP), and variations of this position (Thomistic and otherwise) will be examined more closely in Part Two. It is worth noting here, however, the key challenges to compatibilist divine action. Perhaps most obviously, double agency invites the question of how, exactly, God could act fully in natural processes, even while the natural world of secondary causes is "complete on its own level" and operates in a wholly law-governed manner.[41] Unanimously, Thomists insist that we cannot know how this seemingly paradoxical double agency occurs. For the compatibilist, searching for a causal joint is wholly misguided – literally every created natural process is a causal joint of sorts. The "how" of double agency and the "what" of the causal joint are thus questions that can only be answered by an appeal to divine mystery. And indeed, it must surely be true that no divine action theory could ever explicate the full reality of God's agency. Double agency, however, might seem particularly prone to unnecessary paradox. Namely, it is extremely difficult to ascribe a particular event both to a fully natural cause and to a divine cause – at least while affirming that it is a specific, special divine response to particular circumstances. As Polkinghorne has (infamously) quipped, double agency can seem to be "an unintelligible kind of theological doublespeak."[42] Of course, the Thomist might simply reply that what appears to be paradoxical doublespeak is, in fact, a theological reality that goes beyond the limited ability of finite minds to grasp (and, indeed, beyond an insufficient understanding of causation).[43]

Nevertheless, Thomistic double agency highlights the paradox of compatibilism, a paradox that might not be easily glossed over by theological appeals to mystery. Similarly, compatibilism is notably immune to scientific challenges. Indeed, compatibilism affirms that God is acting in specific events even when those events seem to have sufficient scientific explanations; thus, "the science and the theology pass by each other without much traction."[44] For some, this might seem a brute fact about reality – others might hesitate to embrace a model that leaves no room for serious theological engagement with scientific knowledge. Thus, there are two pertinent critiques of compatibilist models of divine action. First, it may be unnecessarily or incoherently

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[41] Elizabeth A. Johnson, "Does God Play Dice? Divine Providence and Chance," *Theological Studies* 57, no. 1 (1996): 8.

[42] John Polkinghorne, *Science and Christian Belief: Theological Reflections of a Bottom-up Thinker*, The Gifford Lectures for 1993-1994 (London: SPCK, 1994), 81-82.

[43] For more on Thomistic conceptions of causation, see Ignacio Silva, "Thomas Aquinas Holds Fast: Objections to Aquinas within Today's Debate on Divine Action," *Heythrop Journal* 54, no. 4 (2013): 658-67. For a more expansive examination of the history of causation-related thought, see Helen Beebee, Christopher Hitchcock, and Peter Menzies, *The Oxford Handbook of Causation* (Oxford: Oxford University Press, 2009).

[44] Wesley Wildman, "Robert John Russell's Theology of God's Action," in *God's Action in Nature's World: Essays in Honour of Robert John Russell*, ed. Ted Peters and Nathan Hallanger (Aldershot, UK: Ashgate, 2006), 148.

paradoxical to affirm double agency. Second, compatibilism precludes scientific critique of divine action theories. In any case, noninterventionist SDA programmes have assumed (explicitly or otherwise) an incompatibilist framework for divine action.

Of course, Thomism is an incredibly rich theological and philosophical programme that is far more involved and nuanced than can be done justice here – it is introduced here only as a classic affirmation of compatibilist divine action. As will be discussed in Part Two, there are versions of Thomistic (or at least compatibilist) divine action theories that may get around the challenges briefly highlighted here. For example, both Catholic theologian Denis Edwards and William Stoeger have tweaked the standard Thomistic account of double agency; they emphasise not double agency per se, but rather the noncoercive and participatory relationship between nature and God. In such an approach, "God does not override the process, nor bypass the laws of nature. God accepts and works creatively with the limits of creaturely processes, lovingly respecting the integrity of creatures."[45] Here, the emphasis is not so much on the fully distinct causal efficacy of both God and physical processes, but on the inherent participation of all nature in and with God – this will be discussed further in coming chapters. I merely highlight double agency to illustrate the paradoxical challenges of compatibilism.

In sum, then, it is evident that the three debates discussed thus far intertwine with each other and shape one's understanding of divine action. Before concluding this chapter with a brief critique of the binary terms of these debates themselves, it is helpful to examine a test case – this enables one to see how noninterventionist, incompatibilist commitments actually play out in a given causal joint theory. To that end, I here examine the quantum divine action proposal, as this offers the classic example of noninterventionist causal joint theories. The goal in so doing is to actually demonstrate the sort of rigorous analysis that needs to be applied to causal joint theories.

[45] Denis Edwards, *How God Acts: Creation, Redemption, and Special Divine Action*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 2010), 66.

2.3 Quantum Special Divine Action: A Test Case

2.3.1 *The Appeal*

Of all the potentially underdetermined causal joints sought by noninterventionist SDA theorists, none have been so popular (or so infamous) as those involving quantum mechanics (QM). For those seeking to identify a physical realm in which noninterventionist divine action might be said to occur, twentieth-century discoveries in quantum theory have suggested quantum theory as an immensely attractive option. For one thing, QM has to do with the most fundamental elements of physical reality, and divine action would almost necessarily involve the most basic level of physical reality (that is, any action at the macro-level would necessarily involve micro-level quantum processes). Moreover, the sheer strangeness and indeterminacy of subatomic entities only adds to the appeal. Not only are we dealing with the most basic "stuff" of the universe, but that basic stuff seems to exhibit some odd qualities indeed. In other words, QM is doubly appealing because it not only involves fundamental processes, but it is also possible to interpret the behaviour of quantum events as ontologically indeterminate, such that divine action here might not violate the laws of nature.

Specifically, by revealing the quantum world to be probabilistic rather than deterministic, quantum theory seemingly addresses the problem of reductionistic determinism.[46] Prior to quantum mechanics, causal reductionism and the deterministic laws of nature seemed to imply that determinism "works its way up the hierarchy of complex systems, resulting in a fully determined natural world";[47] this effectively precluded the possibility of divine action. If ontological indeterminacy is a reality, however, then divine causality would not violate physical laws precisely because "such laws specifically allow, and in some circumstances, invite, the influence of nonphysical factors."[48] In other words, the deterministic laws of nature might not provide a full causal explanation for some states; "law-like causality may be a pervasive feature of the universe…but so may be creative, non-law-like causality."[49] Thus, quantum theory has been

[46] Nicholas T. Saunders, "Does God Cheat at Dice? Divine Action and Quantum Possibilities," *Zygon* 35, no. 3 (2000): 519.

[47] Nancey Murphy, "Divine Action, Emergence and Scientific Explanation," in *The Cambridge Companion to Science and Religion*, ed. Peter Harrison (Cambridge: Cambridge University Press, 2010), 244.

[48] Ward, Keith. *The Big Questions in Science and Religion*, Hensley Henson Lectures (West Conshohocken, PA: Templeton Foundation Press, 2008), 247.

[49] Ward, *The Biq Questions*, 262.

attractive to many theologians precisely because it provides a space for God to act in creation that is "perfectly consonant with scientific regularity."[50]

2.3.2 *Quantum Mechanics*

In discussing the various ways in which divine action might occur through quantum mechanics, it is worth noting that interpretations of quantum mechanics involve numerous and differing mathematical formulations, models, and interpretations. In short, quantum theory is a research field still very much alive and hotly debated. Though much of the theological work incorporating quantum mechanics is dependent upon a specific interpretation of QM (i.e., the Copenhagen interpretation), others exist; moreover, one's choice of interpretation is not fully determined by the mathematical formalisms.[51] That being said, it is helpful to unpack a few of the more relevant QM concepts.

Quantum Indeterminacy

What exactly is quantum indeterminacy and why is it relevant for divine action? This is a crucial question, for the appeal of QM in divine action theories is due precisely to an assumed ontological indeterminacy wherein God can act within natural processes. To begin with, it is important to recognise that quantum theory essentially deals with the way quantum systems evolve over time. They are described by wavefunctions,[52] which in turn are governed by Schrödinger's wave equation.[53] Importantly, the Schrödinger equation governing the quantum systems' wavefunctions is essentially deterministic. Given the state of a quantum system, its evolution over time is predictable and prescribed. The indeterminism, whether ontological or epistemological, comes in when one attempts to obtain precise values for specific properties of specific quantum entities – say, both a particle's momentum and position. The Heisenberg Uncertainty Principle (HUP) basically states that the more precisely a particle's position can be

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[50] Saunders, "Does God Cheat at Dice?," 521.

[51] This is an important point: almost all quantum SDA theories rely on the Copenhagen interpretation of QM. This is unfortunate, as alternative interpretations (namely, the many-worlds approach) would render very different perspectives on divine action. For an exploration of the implications of the many-world interpretation, see Simon Saunders et al., eds., *Many Worlds?: Everett, Quantum Theory, and Reality* (Oxford: Oxford University Press, 2010).

[52] Wavefunctions are probability waves denoting the probability of obtaining a certain measurement of certain properties for quantum entities at a given time.

[53] Saunders, "Does God Cheat at Dice?," 131.

identified, the less precisely its momentum can be measured, and vice versa.[54] The most common[55] interpretation of quantum mechanics, the Copenhagen interpretation, affirms that quantum indeterminacy is not an epistemological deficiency to be remedied with sufficient technological advances, but an actual feature of basic reality.[56] Thus, we are left with a situation in which quantum systems behave deterministically as described by the Schrödinger equation, but only until the point at which some particular feature of the system is measured. If a specific property of a quantum system is measured by some apparatus external to the quantum system itself, the deterministic wavefunction breaks down and ceases to be predictive. In other words, deterministic wavefunctions govern the evolution of a quantum system over time and describe the probabilities of various possible states for a quantum entity at any given time. At the point of measurement, however, the quantum entity ceases to exist in superposition and "resolves" (in a truly indeterminate manner) into a particular, measurable state. As Saunders explains, "the key point is that current quantum mechanics is both *extremely deterministic* and *potentially indeterminate*."[57] Indeterminacy is a slippery concept to define, and will be discussed further below. Here, though, we have seen that quantum systems evolve deterministically according to the Schrödinger equation, until a point at which measurement occurs. Hence, it seems that noninterventionist quantum divine action could only occur at points where the wavefunction collapses in a quantum event – that is, at measurement points.

Quantum Events and Measurement

The issue of quantum measurement is related to what, in the Copenhagen interpretation, is considered to be the collapse of the wavefunction. As discussed, quantum entities are described by probability waves whose evolution over time is governed by the Schrödinger equation. These waves describe the likelihood of a quantum entity having certain values for certain properties at any given time; and, indeed, when a large number of individual quantum entities are measured, the probabilities are born out with remarkable predictive accuracy. However, the behaviour of

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[54] It should be noted that the HUP does *not* assume measurement; it is not as if a scientist in a lab had tried to measure both the momentum and position of a particle, failed, and formulated the HUP. Rather, the HUP is mathematically derived, independent of actual attempted measurements. This is an important point for our discussion here; there *seems* to be ontological indeterminacy at the quantum level.

[55] It is perhaps more accurate to say that the Copenhagen interpretation has historically been the most widely discussed. In reality, there are a variety of interpretations vying for prominence. See Jenann Ismael, "Quantum Mechanics," in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, Spring 2015 edition. https://plato.stanford edu/archives/spr2015/entries/qm/.

[56] John J. Davis, "Quantum Indeterminacy and the Omniscience of God," *Science and Christian Belief* 9, no. 2 (1997): 131.

[57] Saunders, "Does God Cheat at Dice?," 524.

any one particle can be ontologically indeterminate. According to the Copenhagen interpretation, the particle is in a superposition, a situation where it is both here *and* there, but also neither here nor there; it has a status altogether other than the possibilities one would assume to be possible, given everyday experience and Newtonian physics. However, it is also evident that when one observes or measures such an entity, it is seen to exhibit only one property (e.g., a specific location or velocity); the measurement device is never "confused" about the value of that which is being measured. This is why the wavefunction is said to collapse; at the time of measurement, it is known with 100% certainty that the particle's properties have specific values, because this has been measured to be the case. This means that the wavefunction must have collapsed, and this is directly due to the act of measurement – at least according to the Copenhagen interpretation. The question then becomes one of the particular role that the observer plays in that collapse. What counts as an observer? What counts as a measurement? Perhaps most importantly, how exactly does the act of measurement cause a physical change in the quantum system? When theologians discuss quantum divine action, they often talk about God intervening in quantum mechanical events in order to bring about a desired action. Because in the standard Copenhagen interpretation the collapse of the wavefunction does not actually occur until the point of measurement, these scholars are essentially saying that God participates in the measurement process in order to collapse the wavefunction. But how exactly might this occur?

2.3.3 *Divine Action Approaches*

Advocates of quantum SDA have taken a number of different approaches in answering this question, the most notable of which is known as noninterventionist objective divine action (NIODA), formulated by Russell. According to Russell, divine action objectively occurs in quantum events through the actualisation of one of several potentialities; "the collapse of the wave function occurs because of divine and natural causality working together."[58] Importantly, Russell emphasises that his is not a "gaps argument" because it rests on what *is* known about nature.[59] Moreover, Russell argues that if God acts in the world at all, it necessarily must be at the quantum level, because the "somatic enactment" of conscious will "requires lower-level indeterminism"; causality requires that divine action be initiated at the lowest level.[60] In fact, the

[58] Robert J. Russell, "Quantum Physics and the Theology of Non-Interventionist Objective Divine Action," in *The Oxford Handbook of Religion and Science*, ed. Philip Clayton and Zachary Simpson (New York: Oxford University Press, 2006), 586.

[59] Russell, "Quantum Physics," 582. Of course, this is assuming that the Copenhagen interpretation of quantum theory and ontological indeterminism is correct.

[60] Russell, "Quantum Physics," 580.

fabric of reality is such that it requires God's action in all quantum events; we essentially have no idea what the world would look like without divine action.[61] Philosopher and theologian Nancey Murphy agrees with Russell's approach in many respects, further suggesting that God works in each and every quantum event, "activating or actualizing one or other of the quantum entity's innate powers at particular instants."[62] Thus, quantum particles have an innate array of options available to them, and God selects from among these potentialities in bringing about God's purposes in the world.

2.3.4 *Possible Mechanisms*

Within the Copenhagen model, there are several different ways in which divine agency could "step in," which Nicholas Saunders has thoroughly explained, and whose argument I follow here.[63] First, God could alter the wavefunction itself, such that the mathematical expression of a quantum system aligned with God's desired action. This would theoretically involve adding an additional possible state to the existing superposition of probable states; God's desired state for the quantum system would be factored into the existing wavefunction. This is problematic for both scientific and philosophical reasons. First, there are severe limitations on what quantum mechanics allows this desired state to be (there are very specific and narrow values involved in superpositions), and so divine action would be almost absurdly restrained. Moreover, such an alteration of the wavefunction would be an essentially interventionist action; God would be tampering with physical realities, thus nullifying the whole point of quantum divine action theories in the first place. Finally (and perhaps most importantly), altering the wavefunction would only make God's desired quantum state a possibility. Note that quantum indeterminacy is *actually* indeterminate; there is no way for God to determine which potential state in a superposition is selected without violating quantum indeterminacy.[64] To put it crudely, by tampering with the wavefunction God would only be increasing the odds of a certain quantum state; God may or may not get God's wish regarding the resulting quantum state!

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[61] See Thomas F. Tracy, "Particular Providence and the God of the Gaps," in *Chaos and Complexity: Scientific Perspectives on Divine Action*, ed. Robert J. Russell, Nancey Murphy, and Arthur R. Peacocke (Vatican City State: Vatican Observatory, 1997).

[62] Nancey Murphy, "Divine Action in the Natural Order: Buridan's Ass and Schrodinger's Cat," in *Chaos and Complexity: Scientific Perspectives on Divine Action*, ed. Robert J. Russell, Nancey Murphy, and Arthur R. Peacocke (Vatican City State: Vatican Observatory, 1997), 342.

[63] While I here follow Saunders' argument in his article "Does God Cheat at Dice?," the same content (in an expanded form) can be found in his chapter of the same name, in Chapter 6 of *Divine Action and Modern Science*.

[64] Saunders, "Does God Cheat at Dice?," 537.

The second option for quantum divine action involves God taking measurements of the quantum system, causing the collapse of the wavefunction. In this scenario, God would basically measure the quantum system at a given time. This is problematic because a measurement requires an actual observer (e.g., some macroscopic device such as a computer or human brain), and unless God has some sort of physical extension with which to make the measurement, it is difficult to see how this approach does anything but complicate the issue.[65] Also, this approach is inconsistent with measurements that we, as humans, can take and observe. That is, the quantum measurements taken by humans are consistent with the statistical probabilities predicted ahead of time by quantum mechanical formalisms. Moreover, such a physical act of measurement is still an intervention in the natural world, insofar as natural processes would have transpired otherwise if God had not measured the quantum system. Here again, God's measurement would still be subject to the indeterminism itself – measurement does not dictate the result of that measurement, but only the point in time when the superposition resolves to a definite state. If this is divine action, it is of a very weak form indeed.

The third option is for God to alter the probabilities for any one quantum measurement result, essentially tipping the scales such that any probability other than God's intended result is virtually nil. This option is problematic because of just how closely tied to the wavefunction a measurement's result is. In other words, by changing the probabilities of getting a certain result, God is almost forced into changing the wavefunction itself, and so is faced with all the difficulties of the first option. Changing the wavefunction is not a noninterventionist way of acting, for the wavefunction is governed by strict probabilities and evolves deterministically until a point of measurement.

The fourth approach is related, namely that God could simply determine the outcome of a quantum measurement by ignoring the probabilities altogether. In order for this action to be noninterventionist, however, it must be assumed that the probabilities themselves are derivative from the measurement and not ontologically prior.[66] This position is thus connected to a descriptive view of physical laws – the laws simply adapt to the measurements attained, rather

[65] Ibid., 538.
[66] Ibid., 539.

than objectively guiding the outcome of those measurements. This means that God is essentially deceiving humans into thinking that probabilities have any real bearing on physical events. This is possible, of course, but completely undermines quantum divine action's raison d'être; the whole point of such a project is to take physical processes seriously and find a natural place in which God might act.

This brief overview is meant to highlight the relevant issues in the discussion regarding quantum divine action. Saunders is careful to make the point that QM is both potentially indeterministic and extremely deterministic; though there is apparent (and likely, ontological) indeterminacy at the point of measurement, the quantum event is still constrained by a specific set of potentialities and is also governed by deterministic equations between measurements.[67] In fact, one could argue that relegating divine action to the realm of QM is actually too restrictive for the God of Christian theism, because of the limited number of probabilities possible in each quantum event. Along these lines, many theological approaches to quantum mechanics fail to take seriously the meaning of a quantum event; if "measurements are the only suitable loci for divine action" (which is the case in the standard Copenhagen interpretation), then God can act only when an observer is present to take a measurement.[68] It is difficult to imagine how God could affect quantum systems in a noninterventionist way, without also completely shifting to an understanding of the laws of nature as being merely descriptive and derivative – thus nullifying the need for noninterventionism in the first place. And, if one simply decides to conclude that God does intervene at the quantum level, then the whole point of looking at specifically *quantum* divine action is undermined. The appeal of quantum divine action is that it seems to promise a way for God to act within the existing structure of the natural world; interventionist acts at the quantum level, small and minor as they may seem, are fundamentally no different in kind than an intervention on the macroscopic level. Locating divine action in QM merely pushes back the point at which God intervenes; the original dilemma remains.

Physicist Richard Feynman has famously said that "nobody understands quantum mechanics," and this seems still to be a fair assessment; it is true that many features of the quantum world seem strange and counterintuitive.[69] However, it is one thing to say that quantum theory seems

[67] Ibid., 523.
[68] Ibid., 533.
[69] Richard Feynman, *The Character of Physical Law* (Cambridge, MA: MIT Press, 1967), 129.

bizarre and fundamentally "other" than everyday macroscopic processes, and a completely different thing to either 1) forcibly insert divine action to explain these processes or 2) sequester divine action to the quantum level because it seems just strange enough to accommodate God. In other words, while the current state of quantum theories might appropriately elicit an almost apophatic response (e.g., "We don't yet know how this works."), this should not be linked with a positive articulation of divine action at the quantum level. Vague references to supposedly indeterminate processes are easy enough to articulate; elucidating an actual mechanism for quantum divine action is something else altogether. This does not mean that divine action could not occur at the quantum mechanical level, but rather that we do not have enough knowledge to support this claim. It seems that theological appropriations of quantum theory often demonstrate a serious lack of awareness – not only of the details of quantum mechanics itself, but also of the theological weaknesses and implications involved. In other words, it is precisely a keen desire to construct a coherent, scientifically-informed understanding of divine action that necessitates a strong critique of misappropriations of scientific theories. Such a critique here serves a dual purpose: not only does it allow us to scrutinise a particular area in which many theologians have sought to "make room" for God's agency, but it also acts as a case study demonstrating the kind of intense analysis that needs to be levied against such theological appropriations.

2.4 Questioning the Binaries

As demonstrated in the preceding critique of quantum divine action theories, standard causal joint models for SDA often fail to hold up under scientific scrutiny. This insufficiency is not limited to QM proposals; the next chapter offers a similar, extended critique of divine action proposals based on the emergent human mind. What is notable in such proposals is the way that they presume a commitment to incompatibilism, noninterventionism, and a reified ontology of the laws of nature. Once these metaphysical and theological commitments are presumed, it is a short step indeed to affirming specific causal joint theories such as the QM proposal examined above. However, such causal joint models collapse under scientific scrutiny and are theologically unsatisfactory (insofar as they restrict divine action to an almost absurd degree). Moreover, such causal joint proposals essentially render current scientific knowledge as the authority of whether and how God might act.

But are these three metaphysical and theological commitments necessary? Or, as I shall argue throughout this thesis, might the standard frameworks for thinking about divine action themselves be misguided? Indeed, while noninterventionist models for divine action have been widely affirmed by the DAP and those influenced by the Project, other theorists now challenge the standard approach and its perhaps-insufficient presuppositions about the God-nature relationship. As I will argue in Part Two, those affirming a theological turn in science-and-religion critique the metaphysical foundation of standard noninterventionist approaches to SDA, instead using various theological resources to contextualise divine action in alternative metaphysical frameworks. By exploring specific theological formulations of the God-nature relationship, these theorists are able to provide theological models of divine action that do not rely on scientifically identifiable points of indeterminism in which God might act.

More specifically, critics of standard SDA theories re-examine what it means to be properly "natural," challenging the presumed autonomy of nature implied by noninterventionist, incompabilitist approaches. For example, the interventionism/noninterventionism debate is wholly rejected as implying a model of the God-nature relationship that borders on deism. That is, to debate whether God does or does not intervene in the laws of nature is to presume a universe in which nature is essentially self-sufficient and autonomous by default. Note that this applies not only to intervention, but to nonintervention as well – even to debate whether or not God intervenes in nature is to tacitly approve the standardisation of a "normal" natural order that does not include ongoing special divine action. Similarly, representatives of the theological turn in divine action critique the compatibilism/incompatibilism binary, seeing the relationship between an immanent God and physical processes as being far more participatory and involved than is allowed by the standard incompatibilism debate. They argue that God is always present to and involved with nature, and that it does not make sense to speak of nature apart from God's active presence in the first place. And finally, those rejecting standard divine action models critique the debate over the laws of nature as being oversimplified; they instead suggest that a full naturalistic understanding of physical processes must necessarily include the active participation of God. As Gregersen explains, "the ontology of divine action determines the understanding of the laws of nature, rather than the other way around."[70] That is, the priority is placed on theological categories, rather than on scientific articulations of physical laws.

[70] Gregersen, "Special Divine Action and the Quilt of Laws," 194.

Basically, then, the theological turn in divine action is marked by a rejection of the standard assumptions that define the parameters of causal joint theories as developed under the DAP. Rather than relying on current scientific knowledge to determine how and where divine action might occur, the theological turn privileges theological frameworks that emphasise a more participatory, involved relationship between God and nature. Rather than identifying particular underdetermined causal joints in nature, critics of the standard model affirm that *all* nature is a causal joint (thus adopting a compatibilist, Thomistic position – more on this in coming chapters). This is a theological and metaphysical commitment that is not subject to or reliant on scientific knowledge (for better or for worse, it should be noted). Rather than privileging science as the final arbiter of all reality, the theological turn underscores that science is limited in what it can tell us about the ontology of nature itself, or about reality as a whole. We must look beyond science for a theology of how God interacts with the natural world.

The theological turn will be explored in greater depth in Part Two. By examining the standard model of divine action, and the debates framing its commitment to noninterventionist causal joint theories, this chapter has laid the groundwork for two lines of argument in this thesis. First – and more broadly – this chapter has explored the metaphysical assumptions and reigning debates against which the theological turn is developed. As noted in Chapter 1, Part One of this thesis is largely deflationary, critical of standard causal joint theories as developed over the last several decades. In Part Two, however, I will offer more constructive theological alternatives to the standard model of noninterventionist divine action. This constructive work makes sense only in contrast with the metaphysical pre-commitments explored in this chapter. Second, this chapter outlines the framework in which one can best understand Clayton's emergentist divine action thesis – the subject of the next chapter. Though Clayton himself would not affiliate himself with quantum divine action proposals (for example), his identification of the emergent mind as a uniquely spiritual causal nexus in which God might act is telling. Explicitly or otherwise, I will argue, Clayton's emergent divine action thesis is the latest iteration of the same metaphysical framework that has long been driving standard divine action proposals. Because Clayton's work is so sophisticated, it is not always clear that his proposal is indeed a noninterventionist causal joint model. This chapter, then, has endeavoured to provide the requisite analysis of the relevant debates and commitments to which Clayton is subscribing (implicitly or explicitly). With that, I

now turn to Clayton's emergent divine action proposal, and its privileging of human consciousness as a uniquely open nexus in which divine action occurs.

Chapter 3

Divine Action and Mind: Philip Clayton's Emergentist Thesis

3.1 Introduction

In the previous chapter, I surveyed the current state of contemporary divine action theories in science-and-religion, and the role that the causal joint has played in their development. I argued that three key debates defining the terms and framework of the divine action conversation are interventionism/noninterventionism, the ontological status of the laws of nature, and compatibilism/incompatibilism. I argued not only that the standard model of divine action has been largely committed to noninterventionism and incompatibilism, but that it has also exhibited confusion and a lack of clarity around the laws of nature. As a representative test case, I outlined the debate surrounding divine action and quantum mechanics, concluding that standard divine action models often fail to be scientifically plausible or theologically adequate. In fact, the entire contemporary divine action dialogue is framed by terms and metaphysical commitments that may be question-begging and insufficient for Christian theism. Namely, modern divine action theories often presuppose a quasi-deistic God-world model that lacks a robust understanding of God's immanence in, and involvement with, *all* Creation. This being the case, science-and-religion has been effectively hamstrung into producing theories that either disallow any meaningful divine action, or confine it to specific areas of the natural world (thus committing the theological faux pas of "God of the gaps" thinking). Nicholas Saunders, I suggested, is not far off in suggesting that theology is in a state of crisis - at least, that is, so far as the standard divine action model is concerned.

This being said, one might argue that the days of quantum divine action theories are long gone, and that science-and-religion has moved beyond research programs like the DAP that dominated the conversation for decades. And indeed, a variety of alternative divine action models have been presented in recent years; these will be the focus of Part Two. In this chapter, though, I suggest that the standard incompatibilist, noninterventionist causal joint paradigm is still alive and well – particularly in the theology of human consciousness. Even as quantum mechanics was once hailed as a scientifically plausible locus for divine action, so too is consciousness now viewed as an inherently nonphysical phenomenon that might be uniquely spiritual and open to divine

action. In particular, Philip Clayton has developed an emergentist divine action thesis suggesting that both the science and philosophy of emergence justify a nonphysical, nonbiological (or "more than biological") understanding of the mind. Clayton then uses this nonphysical understanding of the mind to suggest that consciousness, as an emergent spiritual property, is uniquely open to noninterventionist divine action. His divine action proposal is essentially that "an emergentist theory of mind…opens up the possibility of divine influence at the mental or spiritual level that does not require an exception to any natural laws."[1] Not only is the emergent mind open to divine action, but it may be *uniquely* open to divine action: "The human person, understood as integrated self or psychophysical agent-in-community, offers the appropriate level on which to introduce the possibility of divine agency. Here, and perhaps here alone, a divine agency could be operative that could exercise downward causal influence without being reduced to a manipulator of physical particles or psychotropic neurotransmitters."[2] Clayton thus uses emergence theory as a framework within which to understand noninterventionist divine action, and locates this divine action solely in the emergent mind.

It is perhaps unsurprising that emergence has enjoyed such wide appeal in science-and-religion, as it purports to offer naturalistic explanations for higher-level phenomena without reducing those phenomena to quarks and electrons. Indeed, in recent years emergence has seemed to lend itself particularly well to those seeking to develop noninterventionist, scientifically plausible divine action theories. For theologians fearing the implications of reductionistic explanations, emergence may seem to offer the best of both worlds: emergence can claim scientific plausibility, and simultaneously affirm the ontological distinctiveness of such phenomena as human life, conscious minds, and (perhaps) a spiritual aspect of humans. Philosopher Gregory Peterson suggests that "a scientifically informed worldview and an ontologically reductionistic worldview are not the same thing and, on some accounts, are even opposed to each other."[3] Emergence, then, promises to be both scientifically plausible and to offer a nonreductionistic ontology. In particular, emergentist theories of mind have been suggested as offering ontologically open loci (read "causal joints") wherein God might act without interfering with physical processes.

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[1] Philip Clayton and Steven Knapp, *The Predicament of Belief: Science, Philosophy, Faith* (New York: Oxford University Press, 2011), 58.

[2] Philip Clayton, *Mind and Emergence: From Quantum to Consciousness* (Oxford: Oxford University Press, 2006), 198.

[3] Gregory R. Peterson, "Species of Emergence," *Zygon* 41, no. 3 (2006): 691.

Be this as it may, my argument in this chapter is that the appropriation of emergence for divine action theories is both scientifically and theologically inadequate. Moreover, Clayton's emergentist divine action proposal presupposes that consciousness will never be explained in physical terms. Both of these tenets of Clayton's theory – his use of emergence theory and his assumption that the mind is unexplainable in physicalist terms – fail to take seriously scientific methodology and success. Thus, I argue that Clayton's emergentist divine action proposal not only fails to be scientifically or philosophically plausible (insofar as it borders on dualism), but that it is also theologically insufficient insofar as it unnecessarily confines divine action to the human mind. To this end, the chapter begins with an explanation of Clayton's approach to divine action more broadly, and his emergentist divine action proposal in particular. This is followed by a brief examination of Clayton's panentheistic framework, as this acts as the metaphysical scaffolding for his divine action proposal. The last section of the chapter offers a refutation of Clayton's position from within emergence theory itself, as well as a theological critique that Clayton's proposal is actually a "God of the gaps" causal joint approach – and implicitly dualistic as well. In sum, this chapter critiques Clayton's divine action proposal as theologically weak and scientifically implausible, and uses this critique to demonstrate that Clayton's approach is of the same fundamental character as causal joint programs in decades past.

3.2 Philip Clayton and Emergence Theory

Clayton is one of the more sophisticated and nuanced thinkers in science-and-religion, particularly in the area of divine action. He strives to be both naturalistic and nonreductionistic, maintaining a commitment not only to Christian theology and philosophy, but also to the empirical sciences. In short, he seeks maximum traction between science and religion, endeavouring to be scientifically engaged and grounded, while still affirming theological claims. Unsurprisingly, Clayton rejects interventionist conceptions of divine action, and also affirms "the epistemic priority of contemporary science as a source of justified explanations about the natural world."[4] Indeed, he recommends the "presumption of naturalism" in explaining *any* phenomenon.[5] If anything, Clayton's approach to science-and-religion might seem overly

[4] Clayton, "Natural Law and Divine Action: The Search for an Expanded Theory of Causation," *Zygon* 39, no. 3 (2004): 631.

[5] Clayton, *God and Contemporary Science*, 171. As we will see, though, the meaning of "naturalism" is highly contentious. Clayton's own panentheism lends a specific connotation to "naturalism" that precludes it from meaning "an explanation devoid of God."

naturalistic to Christian theologians; an oversimplified reading might give the impression that his theology is a bit anaemic, leaving God "out of a job" at times. In any case, it is clear that Clayton does not think of himself as a dualist (in terms of the human mind-brain, at least) – far from it. Thus, my argument here – that Clayton's divine action proposal might be considered dualistic – needs a bit of clarification. Though I am critical of Clayton's argument and conclusion that the mind is uniquely open to divine action, it is largely because I find this conclusion out of step with his overall naturalistic approach to science-and-religion. Indeed, I suggest that his metaphysical framework is robust enough to handle a much more expansive understanding of divine action that is not limited to the human mind, and is not dualistic. In other words, I argue that Clayton's divine action theory paradoxically fails both to be naturalistic enough (insofar as it privileges the mind), and to be theologically adequate (insofar as it restricts divine action to human consciousness).

The core of Clayton's divine action proposal (and his naturalistic approach to science-and-religion more broadly) is emergence. Emergence is notoriously difficult to define, not least because it is used differently in various disciplines. Indeed, this interdisciplinary aspect of emergence is sometimes seen as a strength; as philosophical theologian Wentzel van Huyssteen writes of Clayton's approach, "I see as [Clayton's] persistent subtext…his vision that single disciplines offer too narrow a perspective when it comes to understanding specific phenomena, even phenomena on a physical or biological level."[6] A proper understanding of emergence – and in particular emergent consciousness – would thus involve not only scientific observations and theories, but philosophical input as well. Clayton himself is reluctant to summarise emergence, but writes: "If forced to give a one-sentence definition, I would say that emergence is *the theory that cosmic evolution repeatedly includes unpredictable, irreducible, and novel appearances*."[7] Put differently, emergence is the idea that the natural world exhibits layers of increasingly complex systems, which produce unexpected phenomena that are irreducible to the lower levels and components on which they are yet dependent. Rather than being a single scientific or philosophical theory, emergence recognises interconnected and hierarchical levels of reality across the disciplines; emergence is "only an overarching rubric to describe many different research programs in many different sciences."[8] Sufficiently complex systems are thought to produce emergent phenomena

[6] J. Wentzel van Huyssteen, "Emergence and Human Uniqueness: Limiting or Delimiting Evolutionary Explanation?" *Zygon* 41, no. 3 (2006): 650.

[7] Clayton, *Mind and Emergence,* 39.

[8] Philip Clayton, *Adventures in the Spirit: God, World, Divine Action*, ed. Zachary Simpson (Minneapolis, MN: Fortress Press, 2008), 67.

that exhibit properties unavailable and irreducible to the lower-level components of which they are composed – the whole is more than the sum of its parts.

Emergence has been fiercely debated and attracted a sizable body of academic literature, with various theorists offering competing criteria and categories for emergent phenomena.[9] Clayton himself suggests that "emergence is the view that new and unpredictable phenomena are naturally produced by interactions in nature; that these new structures, organisms, and ideas are not reducible to the sub-systems on which they depend; and that the newly evolved realities in turn exercise a causal influence on the parts out of which they arose."[10] There is a lot to unpack in Clayton's description of emergence, and it is worth looking at each of these criteria in turn. First, however, it is important to note that Clayton sees emergence as an operative framework in all of nature. Emergentists do not apply the theory only to seemingly mysterious phenomena such as consciousness, but also recognise patterns of emergence in biology, chemistry, physics, and psychology. Clayton does apply emergence to consciousness, but he also recognises that "consciousness is not the only emergent level; in one sense it is merely another in a very long series of steps that have characterized the evolutionary process."[11] Indeed, one of emergence's appealing qualities is that it takes biology and evolution very seriously, contextualising all natural phenomena (including the mind) in a richly textured biological picture. At the very least, it is clear that Clayton intends to offer an emergentist understanding of consciousness that is wholly naturalistic, situating the mind within the larger web of nature. In so doing, Clayton intends to offer emergence as a third option between reductive physicalism and dualism: emergent properties involve only physical components (hence Clayton considers himself an emergentist monist), but they are also (somehow) more than those physical components.

So then, what exactly does emergence entail? Again, theorists differ on this, but Clayton's own perspective prioritises unpredictable novelty, irreducibility, and downward causation. First, emergent phenomena are unpredictably novel; the "higher-order whole could not have been predicted from an analysis of the parts independently."[12] This principle underscores the point

[9] For a broad-spectrum examination of the intersection of emergence, science, and theology, see Philip Clayton and Paul Davies, eds., *The Re-emergence of Emergence: The Emergentist Hypothesis from Science to Religion*, (Oxford: Oxford University Press, 2006).

[10] Clayton, *Mind and Emergence*, vi.

[11] Ibid.

[12] Peterson, *Species of Emergence,* 693.

that emergent phenomena exhibit properties that are distinct from the parts on which they are dependent. If an observed property were merely an extrapolation of existing low-level laws as applied to components of the whole, the property would not be emergent. The idea here is that something is emergent if and only if it is something of a "game changer," exhibiting properties that would not have been predictable outcomes of lower-level components. Biophysicist and emergence theorist Harold Morowitz explains that "when such [an emergent] system is assembled from its components, new characteristics of the whole emerge that could not have been predicted from a knowledge of the constituents."[13] Fluid dynamics offers a simple example of this in the phenomenon of convection. Depending on temperature, a liquid's characteristics, and the constraints of specific containers, self-organising Bénard cells are formed; these cells exhibit specific patterns of movement and order that would not be predictable without knowledge of the fluid system as a whole. When a system is sufficiently complex to produce an emergent property, that emergent property is not merely "more of the same," but a new sort of thing altogether that cannot be seen as an expected result of lower-level processes.

Similarly, emergent phenomena are irreducible to the lower-level systems and components on which they are yet dependent. Clayton explains that "to say that emergent properties are irreducible to lower-level phenomena presupposes that reality is divided into a number of distinct levels or orders."[14] This hierarchical understanding of nature is vital for emergence theories; each distinct level is irreducible to the lower levels involved in its functioning. When a system is emergent, it requires higher-order descriptions and operates with higher-order laws. For example, economics would be considered an emergent entity requiring description in the language of economics, and requiring reference to the laws of economics for full explanation. Economics certainly requires atoms, molecules, and the laws of physics in order to exist, but few would suggest that atoms and molecules themselves are *sufficient* to explain economics. In other words, emergence acknowledges the necessity of the special sciences for appropriate study of emergent phenomena. Economics is *really* real, and is not reducible to physics or chemistry – though physics and chemistry are required for economics to exist. In fact, one could say that "it is possible to be a reductionist and [an emergent] holist too," precisely because emergent properties are a sort of reductionistic unit. That is, if one were to attempt reducing an emergent system into its lower-level components, the resulting explanation would fail to explain the

[13] Harold J. Morowitz, *The Emergence of Everything: How the World Became Complex* (Oxford: Oxford University Press, 2002), 20.

[14] Clayton, *Mind and Emergence*, 5.

emergent property itself. An emergent level cannot be explained solely by reference to its parts; it is already "reduced" and distinct on its own terms.

At this point, some key distinctions in emergence theories become important. Namely, there are two very different versions of emergence: strong (or ontological) emergence, and weak (or epistemological) emergence. Weak emergentists affirm that while "it may be essential to scientific success to explain causal processes using emerging categories such as protein synthesis, hunger, kin selection, or the desire to be loved," "the fundamental causal processes remain those of physics."[15] Put another way, weak emergentists recognise emergence's usefulness as a heuristic tool enabling the higher-order explanations that are so important to scientific analysis; they do not, however, admit any causal processes in those emergent phenomena other than those of fundamental physics. Thus, a weak emergentist would recognise emergent phenomena as unpredictably novel, but only because of our epistemological limitations. In principle, emergent phenomena might well be predictable, if one possessed the correct knowledge of an emergent system's constituent parts and the surrounding environment. Similarly, a weak emergentist would affirm that emergent properties are irreducible only in an epistemological sense; these properties are certainly difficult to explain in lower-level terms, but are still finally determined by those lower-level processes. Philosophers Michael Silberstein and John McGeever explain that "a property of an object or system is epistemologically [or weakly] emergent if the property is reducible to or determined by the intrinsic properties of the ultimate constituents of the object or system, while at the same time it is very difficult for us to explain, predict or derive the property on the basis of the ultimate constituents."[16] The emphasis in weak emergence is on epistemological limitation, heuristic usefulness, and the exigencies of scientific discourse.

Perhaps unsurprisingly, Clayton does not restrict himself to weak emergence, as doing so would not "represent a genuine alternative to physicalism" at all.[17] The more relevant type of emergence here is strong, or ontological, emergence. Strong emergentists affirm that emergent properties really are ontologically distinct from their lower-level substrates and constituents. In this view, "evolution in the cosmos produces new, ontologically distinct levels, which are characterized by

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[15] Clayton, *Mind and Emergence*, 9.

[16] Michael Silberstein and John McGeever, "The Search for Ontological Emergence," *Philosophical Quarterly* 49, no. 195 (1999): 186.

[17] Clayton, *Mind and Emergence*, 10.

their own distinct laws or regularities and causal forces."[18] For strong emergentists, emergent properties are unpredictably novel – and not because we are epistemologically limited. The unpredictable novelty here is an "in principle" one; no amount of knowledge of lower-level processes could ever predict the properties emerging from them. Similarly, strong emergence affirms the fundamental irreducibility of emergent properties; because these properties are more than the sum of their parts, any reduction would render insufficient explanations. Philosopher Russell Manning explains that "for ontological emergence, the world is more than simply a set of lower-level entities or simple units continually arranged and rearranged into composite wholes…Rather the world is itself composed of wholes and complex systems, which can then be dissected into various component parts without, however, the assumption that nothing will be lost in the process."[19] Reduction might be possible, but not without losing an understanding of the "something more" that emergent realities bring.

Keeping in mind this distinction between strong and weak emergence, we can now examine the final emergentist commitment: downward causation. Clayton identifies downward causation as the most definitive characteristic of strong emergence. Essentially, strong emergentists affirm that emergent properties are "features of systems or wholes that possess causal capacities not reducible to any of the intrinsic causal capacities of the parts nor to any of the (reducible) relations between the parts."[20] In other words, ontologically emergent properties have causal powers over and above those of their constituent parts. Moreover, these causal capacities of emergent systems actually alter the components of those systems – this is downward causation. As Clayton explains, downward causation is "*the process whereby some whole has an active non-additive causal influence on its parts.*"[21] In other words, the components of a system are constrained and altered by the higher-level system of which they are a part.

Downward causation is not a monolithic concept, and there is a significant difference in how emergent causation more generally is treated by strong and weak emergentists, respectively; "the natural world exhibits different kinds of properties at different levels, and different kinds of

[18] Ibid., 9.

[19] Russell Manning, "Mere Summing Up? Some Considerations on the History of the Concept of Emergence and its Significance for Science and Religion," *Science and Christian Belief* 19, no. 1 (2007): 41.

[20] Silberstein and McGeever, "The Search for Ontological Emergence," 186.

[21] Clayton, *Mind and Emergence*, 49.

causation are at work at the various levels."[22] Technically speaking, downward causation is a stronger version of emergent causation than the "whole-part constraint" affirmed by weak emergentists. As Clayton explains, whole-part constraint is the weak emergentist position that "tends to treat emergent wholes as constraining factors rather than as active originators of causal activity."[23] For instance, snowflakes have very specific symmetrical constraints. Obviously, a snowflake is composed of individual water molecules and is, in a sense, dependent on the molecules' physico-chemical properties. Once a certain number of those water molecules are part of the larger snowflake system, though, their causal abilities are constrained and at least partially determined by the structure and activity of the overall snow crystal. Once the individual water molecules are brought together into a specific structural symmetry, the snowflake that emerges from those molecules causes change in those lower-level molecules. This is an example of the weaker form of emergent causation; the snow crystal constrains its constituent molecules by virtue of its symmetrical structure, and in this limited sense has causal influence over the molecules. The snowflake does not, however, actively cause change in the water molecules.

Leading emergentist Terrence Deacon has explored whole-part constraint in great detail; he argues that emergent causation should be seen through the lens of systemic constraints and an absence of freedom. That is, he argues that "the *limitation* of degrees of freedom or potential relationships is just as causally efficacious as the 'push and pull' of efficient causation or thermodynamics."[24] In other words, what we perceive as downward causation can really be understood as increasingly complex systems pushing constituent parts into a certain action, precisely because those constituent parts can literally do nothing else. In our snow crystallisation example, Deacon would argue that individual water molecules seem to be acting in a certain way as they freeze into very specific geometric patterns, but in reality they are merely constrained by particular physical properties into behaving the way they do. In other words, "limitation constitutes a different form of causal power."[25] These lower-level instances of whole-part constraint apply to more complex systems as well. Importantly, weak emergentists would still affirm emergent causation in the mind-brain, but only within the limited framework of whole-part constraint. The weak emergentist would say that "the large number of integrated neural circuits in the brain constitutes an extremely complicated whole, which thus constrains the

[22] Clayton, *Adventures in the Spirit*, 78.
[23] Clayton, *Mind and Emergence*, 51.
[24] Zachary Simpson, "Emergence and Non-Personal Theology," *Zygon* 48, no. 2 (2013): 408.
[25] Ibid., 409.

behaviour of its component parts and subsystems in very remarkable ways."[26] While we may feel as if we make conscious choices that cause our body to do certain things, we would be more accurate in saying that "the complexity of [one's] central nervous system constrains [his/her] behaviours in a particular way."[27] The difference is not insignificant, and the point is important: proponents of whole-part constraint purport to be able (in principle) to explain mental causation without requiring strong emergence and downward causation. Deacon argues that "amazing new properties have been, and are being, emerged, and there is nothing new being added. There is no new thing. No new laws. What is 'new and 'more' are new modes of *not being*, new forms of constraint."[28]

Contrary to weak emergentists (and Clayton would consider Deacon to be a weak emergentist), Clayton links strong emergence with downward or "top-down causation," the view that in emergent causation "something more is at work than the constraining influence of a large number of components operating as a system."[29] Whereas weak emergence affirms only whole-part constraint, downward causation introduces active change: "The crux of the argument lies in the notion of distinct 'levels' within the natural world, with each level being defined by the existence of distinct laws and by distinct types of causal activity at that level."[30] In science-and-religion, downward causation is usually discussed in relationship to the mind-body relationship, or the God-nature relationship. But advocates of strong emergence are quick to point out examples of top-down causation throughout the natural world. In fact, it is vital for emergentists to demonstrate top-down causation in areas other than the mind-body relationship, or else "the resulting position would support dualism rather than emergence."[31] Unfortunately, it is much easier to list examples of weak emergentism's whole-part constraint than to identify indisputable instances of strong emergentism's downward causation. For example, we might say that the genesis of cellular life offers an example of downward causation: individual components of a biological cell cannot do much on their own. When brought together in the right structure and in the right environment, however, those components become a contained system, jumping from the realms of physics and chemistry into biology. The cell is a living, functioning system that has

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[26] Clayton, *Mind and Emergence*, 51.

[27] Ibid., 52.

[28] Terrence Deacon and Tyrone Cashman, "Eliminativism, Complexity, and Emergence," in *The Routledge Companion to Religion and Science*, ed. James W. Haag, Gregory R. Peterson, and Michael L. Spezio (New York: Routledge, 2012), 204.

[29] Clayton, *Mind and Emergence*, 52.

[30] Ibid.

[31] Ibid., 49-50.

causal powers over the functions of its constituent parts; strong emergentists would say that the cell's agency involves more than just systemic constraints. The problem here is that a reductionist could simply deny that downward causation is actually happening; cellular causation could be understood as an instance of whole-part constraint. Weak emergentists might affirm top-down causation as "a useful fiction," but nothing warranting the sort of ontological distinction affirmed by the strong emergentists.[32] Again, there are few (or no) undisputed examples of downward causation, though downward causation seems obvious, for many, when we get to the level of mind-body interactions.

In any case, strong emergentists argue that downward causation is increasingly evident the higher one goes in emergent levels of the natural world. For example, biology analyses the emergent properties of bee hives[33] and ant colonies,[34] and sociologists and economists examine emergent forces influencing individuals' lifestyle choices at a variety of levels.[35] The laws operative at lower levels in the natural hierarchy are distinct from the laws involved at higher levels. So, psychology works with different laws than does biology, which is governed by different laws than in chemistry, which is itself not reducible to the laws of physics. Each level is causally distinct, and this is not attributable to either epistemological lack or explanatory ease – this is an issue of ontology, not epistemology. The idea here is that examples of emergence are evident throughout nature; Clayton's point is that consciousness exists in continuity with other emergent phenomena. Just as the snowflake constrains its constituent lower-level water molecules, so do mental states constrain and alter neural patterns in the brain – when I experience the mental state of thirst, my neural activation patterns are altered and my brain directs my limbs to walk to the kitchen for a glass of water.[36] While mental states and snow crystals lie on extreme ends of the emergence spectrum, they both demonstrate the universal nature of emergent processes.

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[32] Peterson, *Species of Emergence,* 698.

[33] See Keith S. Delaplane, "Emergent Properties in the Honey Bee Superorganism," *Bee World* 94, no. 1 (2017): 8-15.

[34] See Balaji Prabhakar, Katherine N. Dektar, Deborah M. Gordon, and Iain D. Couzin, "The Regulation of Ant Colony Foraging Activity without Spatial Information (Regulation of Ant Colony Foraging Activity)," *PLoS Computational Biology* 8, no. 8 (2012): E1002670.

[35] For an overview of emergence and group dynamics, see Peter Miller, *The Smart Swarm: How Understanding Flocks, Schools, and Colonies Can Make Us Better at Communicating, Decision Making, and Getting Things Done* (New York: Avery, 2010). Also see Dirk Helbing, Wenjian Yu, and Heiko Rauhut, "Self-Organization and Emergence in Social Systems: Modeling the Coevolution of Social Environments and Cooperative Behavior," *The Journal of Mathematical Sociology* 35, no. 1-3 (2011): 177-208.

[36] Clayton would say the mind is an example of strong emergence, while snow crystallisation exhibits weakly emergent properties; the key is that these emergent examples exist on a continuum. In other words, Clayton is most concerned to demonstrate that there are patterns of emergence; or, we might say that weakly emergent phenomena (like snow crystals) provide a hint or foretaste of strongly emergent phenomena like mental causation.

In embracing strong emergence,[37] Clayton is keen to distinguish himself both from dualists and from reductive physicalists. On one hand, he is keen to distance himself from dualism, emphasising that emergence is a feature seen throughout the natural world - not only (or even primarily) in the human mind. On the other hand, however, Clayton is quick to deny that emergence is a physicalist position – at least insofar as physicalism implies the sufficiency and primacy of physics for naturalistic explanations. After all, physicalism involves a commitment to the causal closure of the physical, or the assertion that all physical events have physical causes. The strong emergentist resists such a constraint; the assertion of ontologically distinct levels of reality challenges the causal closure principle. And as philosopher Jaegwon Kim argues, if one discards the causal closure principle, then "there can in principle be no complete physical theory of physical phenomena…If that is what you are willing to embrace, why call yourself a 'physicalist'?"[38] Clayton agrees with Kim here: strong emergence rejects the causal closure of the physical as an inappropriate requirement for naturalistic explanation, precisely because strong emergence asserts the causal efficacy of nonphysical properties.[39] This does not mean that strong emergentists are not *naturalists* – they often are. As will be discussed in Chapter 6, naturalism and physicalism are not synonymous. Physicalists recognise only the basic entities and processes of physics, while naturalists can be open to nonphysical realities that may or may not interact with physical phenomena. Clayton's strong emergence, then, is not a reductive physicalist position – but he considers it to be a naturalist one (whether it is truly naturalist will be discussed below). Clayton, then, positions his version of strong emergence squarely between dualism and physicalism, offering a third option that is both nonreductive and naturalistic: emergent monism. This emergent monism is the framework for Clayton's approach to consciousness, to which we now turn.

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[37] While Clayton does embrace strong emergence, he also recognises that some phenomena are better described as weakly emergent – for example, crystal formations. Being a strong emergentist does not preclude one from identifying instances of weak emergences, but merely involves the affirmation that *some* phenomena are ontologically emergent.

[38] Jaegwon Kim, "The Non-Reductivist's Troubles with Mental Causation," in *Mental Causation*, ed. John Heil and Alfred R. Mele. (Oxford: Clarendon Press, 1993), 209.

[39] Not all emergentists want to surrender the physicalist title, especially so-called nonreductive physicalists. Nancey Murphy is a notable example of one who affirms both emergence and physicalism (albeit of the nonreductive sort). Nonreductive physicalism will be discussed in Chapter 5.

3.3 Emergence and Consciousness

Again, Clayton does not pick out consciousness as uniquely emergent, but insists that "understanding the relationship between mind and brain – between consciousness and its neural correlates – requires understanding the multi-levelled structure of the natural world. On this view, the appearance of mental causes is, in one sense just another case of emergence – just another case in which a complicated natural system gives rise to unexpected causal patterns and properties."[40] Consciousness is natural, inasmuch as any emergent phenomenon is natural. Consciousness is not physical, but then neither are other emergent properties picked out across the natural and special sciences. Clayton thus contextualises consciousness within the long history of biological evolution, rejecting the idea that the mind lies solely in the domain of philosophy or theology. He even affirms that "to make sure that the position is not crypto-dualist, we must be able to discern clear and robust examples of emergence within the biological sciences before making any claims about an emergent theory of mind."[41] We can begin to understand the mind only when we recognise that it is continuous with the emergence of life itself and complex systems like the brain. Still, Clayton does insist that the mind is certainly an instance of *strong* emergence – and thus markedly different from the weak emergence of, say, snow crystal formation. Just how markedly different the mind might be (e.g., uniquely open to divine action) remains to be seen.

Clayton rejects the idea that the mind is an object (that would be dualism), and instead finds it "far preferable to limit our theory of the mental to mental properties: complex, emergent properties ascribed to the brain as their object."[42] Mental properties do not exist independently of the brain, but exhibit characteristics that are irreducible to neural processes. This is a rather tricky point to make, particularly because emergentists maintain commitments both to physical processes and to the "something more" of these emergent properties. After all, "mental properties are so radically different in kind, it appears, from the brains that are said to produce them that linking the two conceptually – or causally, for that matter – seems well nigh impossible."[43] Clayton is here referring to the "explanatory gap," or the so-called "Hard Problem of Consciousness" (HP): regardless of how many neural correlates are linked to specific mental states, physicalist scientific models will never be able to explain subjective, conscious experience.

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[40] Clayton, *Mind and Emergence*, 107-108.
[41] Clayton, *Adventures in the Spirit*, 78.
[42] Clayton, *Mind and Emergence*, 111.
[43] Ibid.

The HP is the subject of Chapter 4 and will be critiqued there, but it is worth noting here that Clayton presumes something like the HP. That is, Clayton's emergentist view of the mind rejects the possibility of "a definitional equivalence between brain and mind, an identity of mental states with brain states, lest the difference of the mental as we experience it be lost."[44] The dilemma for the ontological emergentist, then, is to explain how mental states are related to the brain, without reducing those mental states to neural processes.

As a strong emergentist, Clayton claims that "*conscious phenomena are properties that emerge only through the functioning of increasingly complex neurological systems.*"[45] The mind is not an isolated component of the brain, or a fundamental part of reality. Rather, the complex systems of the brain-body-environment make consciousness possible; "mental properties depend on the entire natural history that led to the evolution of an increasingly complex brain and central nervous system, as well as on the physical state of the organism at a particular time."[46] Indeed, one of the main ways of researching the mind is through identification and analysis of the neural correlates of consciousness – or the specific neural activation patterns that correspond to specific mental experiences. There are a variety of approaches in cognitive science and neuroscience that attempt to explain consciousness through an integration of brain research and complex systems theories. For example, neurobiologist Gerald Edelman describes how neural connectivity is involved in mental states: "Nervous system behaviour is to some extent self-generated in loops; brain activity leads to movement, which leads to further sensation and perception and still further movement. The layers and loops…are dynamic; they continually change."[47] For Edelman and many other consciousness researchers, the mind just *is* this sort of complex interconnectivity in the brain.

Clayton, however, rejects such physicalist theories, claiming that approaches relying on neural correlates fail to offer anything other than third-person accounts of brain physiology. He concludes that "conscious states and experiences are not found in the individual neurons; they emerge out of the massively complex system that is the human brain."[48] Consciousness, for Clayton, is something more than the brain-body system. For Clayton and other emergentists, the Hard Problem renders physicalist explanations of consciousness insufficient. This is because

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[44] Ibid., 112.
[45] Ibid., 117.
[46] Clayton, *Adventures in the Spirit*, 83.
[47] Gerald M. Edelman, *Bright Air, Brilliant Fire: On the Matter of the Mind* (New York: Basic Books, 1992), 29.
[48] Clayton, *Mind and Emergence*, 156.

physicalist theories fail to address subjective, phenomenal experience; "mental properties remain different enough from the physiological processes that give rise to them, so that merely linking the two leaves the Hard Problem unsolved."[49] Whatever the relationship between consciousness and the brain, strong emergentists insist that it is not one of identity between the two, and that "[subjective experience] does not seem to be the *kind* of thing that could be explained in terms of functions or structures."[50]

How, then, does Clayton propose the mind should be understood? After all, he flatly rejects dualist conceptions as inappropriate for our scientific context, but also denies the sufficiency of all physicalist theories.[51] An emergentist approach, then, must take into account both the growing body of scientific evidence that consciousness is directly involved with the brain, but still "save the phenomenon" of subjective experience. The key to this, suggests Clayton, is supervenience theory; he explains that "in the most general terms, supervenience means that one level of phenomena or type of property (in this case, the mental) is dependent upon another level (in this case, the biological or neurophysiological), while at the same time not being reducible to it."[52] This is supervenience in its most basic and permissive form; Clayton follows Kim in calling this "weak supervenience." Strong supervenience positions, on the other hand, posit a link between levels so strong that the emergent phenomena are actually determined by their subvenient levels. Because in this view any change at a supervenient level (say, the mental) is the direct result of a change in the subvenient level (say, a specific brain state), then "the 'strong' theory has to say that the subvenient level provides the real explanation for the phenomena in question."[53] It will come as no surprise that Clayton rejects strong supervenience, linking it with weak emergence: both strong supervenience and weak emergence employ emergence language only heuristically. The "real" explanation for mental properties is to be found in neurobiology and physics. Conversely, Clayton links strong emergence and weak supervenience: mental properties are ontologically distinct and only loosely dependent on their neural substrates. This is the mind-brain relationship on which Clayton builds his divine action theory.

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[49] Ibid., 120.

[50] Ibid., 122.

[51] It is worth noting that Clayton includes nonreductive physicalism in his criticisms. This is perhaps surprising, given nonreductive physicalism's dominance in science-and-religion circles. Clayton agrees with Kim that nonreductive physicalism collapses into either dualism or reductive physicalism when examined closely; the only coherent physicalism is a reductive one, for both Kim and Clayton. See Jaegwon Kim, *Mind in a Physical World: An Essay on the Mind-Body Problem and Mental Causation* (Cambridge, MA: MIT Press, 1998).

[52] Clayton, *Mind and Emergence*, 124.

[53] Ibid., 125.

Clayton rejects physicalist explanations for consciousness, and offers an emergentist framework that locates the mind as a strongly emergent property that is weakly supervenient on the brain. But what is the precise nature of the mind's dependence on the brain? One perennial critique of emergence theories is that "the devil is in the details"; it can be very difficult to explain the relationship between mental properties and their neurobiological substrates without lapsing into either reductive physicalism or dualism. How can the mind be dependent on the brain, without being reducible to the brain? Clayton describes this dependency – or "emergentist supervenience" – as firmly situated in the context of evolutionary biology. In order to understand the mind's supervenience on the brain, he argues, we must first understand the incredibly long and complex natural history of brains and central nervous systems. Indeed, "this evolutionary dependency is neither logical nor metaphysical – two requirements often associated with supervenience relations in the philosophy of mind."[54] This will be refreshing for those weary of overly philosophical or abstract theories of consciousness; Clayton roots his approach firmly in the messy and highly contingent evolutionary history of all biological life. His assertion that the mind is "essentially dependent on the history of biological systems…is therefore part of what distinguishes the emergence approach as a separate [nondualistic] ontological option in the debate."[55] In other words, the mind is an evolved, naturally emergent phenomenon that supervenes on the brain-body-environment, just as other naturally emergent phenomena supervene on their physical substrates.

Clayton may distance himself from dualism by emphasising the mind's dependence on evolutionary history, but how does his emergentist supervenience avoid physicalism? Clayton affirms that "an outcome of evolutionary history, mental events as we know them are nonetheless not reducible to the neurological systems that produce them."[56] Where does the "not reducible" aspect of this emergentism come in? For Clayton, mental causation is "the linchpin of the debate."[57] If mental properties are able to exert real causal influence on the brain-body-environment in a manner irreducible to brain processes themselves, then the mind should be granted ontological status. In other words, "granting causal influence to emergent properties

[54] Ibid., 127.
[55] Ibid.
[56] Ibid., 128-29.
[57] Ibid., 131.

must have some effect on one's ontology."[58] If something is able to do things that are unexplainable in terms of lower-level physical processes, then there is warrant for granting nonphysical status to that entity. Indeed, for many emergentists, downward causation is a definitive characteristic of a phenomenon's emergent status.

The question then arises, "*Do* mental properties have real causal power?" This is obviously an enormous subject area and a hotly debated topic. Clayton's own response to this question is essentially an assertion that any explanation of the human subject is insufficient if it does not adequately account for ontologically distinct mental causation. Again, he here relies heavily on the assumption that physicalist explanations could never explain our perceptions of personal agency (more on this in coming chapters), and that there are different kinds of causation. For our purposes here, it is enough to recognise Clayton's firm commitment to mental causation as something of a brute fact about evolved conscious beings, and to the conclusion that the mind is thus an ontologically distinct emergent reality. He argues that "there are genuine mental causes that are not themselves reducible to physical systems on which they depend."[59] Not all causes are physical, and this is demonstrated throughout nature; the mind is simply a more complex and striking example of this than the causality exhibited in chemistry, biology, and economics (for example).

In Clayton's own words, "To suppose that these [mental] features will be fully understood in biological terms is precisely that: a supposition, an assumption, a wager on a future outcome. A deep commitment to the study and understanding of the natural world does not necessitate taking a purely biological approach to the human person; even less does it require…that all causes are ultimately physical causes."[60] In sum, Clayton is committed to the mind's causal efficacy, and argues that this downward causation precludes the possibility of a physicalist or biological account of consciousness. While the mind is a wholly natural product of biological evolution, it is also ontologically emergent and irreducible to physical processes in the brain. Clayton's goal is to "acknowledge that the one natural world is vastly more complicated and more subtle than physicalism can ever grasp."[61] Consciousness, as an ontologically distinct

[58] Ibid., 132.
[59] Clayton, *Adventures in the Spirit*, 196.
[60] Clayton, *Mind and Emergence*, 148.
[61] Ibid., 149.

emergent level or reality, could never be explained in physicalist terms – because of the emergent character of all reality, consciousness can only be described by "irreducibly psychological explanations."[62]

3.4 Emergent Mind and Divine Action

Only after contextualising the mind in an emergent, evolutionary, natural framework can Clayton develop his divine action proposal. The mind is not uniquely emergent, but an example of the wider pattern of emergence found throughout nature. Clayton himself acknowledges the mind as fully natural and continuous with emergent phenomena throughout nature; consciousness is dependent on physical brain processes, but not dependent on or ontologically identical to them. How, then, does consciousness offer room for divine action? After all, Clayton rejects interventionist divine action at the physical level, arguing that "God would in a sense be defeating or contradicting, or perhaps just unnecessarily complicating, God's own creative method by performing intentional actions at [the physical] level."[63] But if the mind is at least involved with physical processes (if not outright determined by them), how can Clayton say that an explicitly supernatural God acts in the mind? On the face of it, at least, emergence theory does little to explain how God could interact with the world in a noninterventionist manner – at least, that is, without collapsing the ontological distinction between God and nature.

And yet, Clayton insists that "the theist's task is not complete without some account of divine action,"[64] and "theism is only viable if talk of divine action is not completely futile."[65] As noted, Clayton follows the noninterventionist commitments explored in Chapter 2, denying any theory of divine action that would require contravention of the laws of nature. While one cannot rule out the metaphysical possibility of God intervening in the laws of nature, Clayton argues that "because our knowledge of physics represents the most rigorous, most lawlike knowledge humans have of the world, there is never justification for assuming the falseness of physics except in so far as one is arguing for a new and better physics."[66] This wariness of physical miracles and objective divine action is very much in line with standard noninterventionist

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[62] Ibid., 149.
[63] Clayton, *Adventures in the Spirit*, 215.
[64] Ibid., 185.
[65] Ibid., 205.
[66] Clayton, *Mind and Emergence*, 188.

models. That is, Clayton is assuming that any account of divine action must somehow align with the known laws of physics and methodological naturalism more generally.

This is precisely the point where emergence becomes relevant for divine action: Clayton insists that the ontologically distinct emergent mind *is* compatible with naturalism and the known laws of physics, but also that the emergent mind is underdetermined by physical laws. As such, the emergent conscious agent is herself open to divine agency at the emergent level of the mental. In other words, it is because the mind is not determined by physical laws that God can act in consciousness without contravening those physical laws. As Clayton explains, "Just as no physical natural laws are broken when one explains the behavior of human beings in terms of their thoughts, will, and intentions, so also no laws are broken when one explains their behavior in terms that include the causal influence or 'lure' of certain higher spiritual values on their thinking and consequent actions."[67] God, then, is to be thought of as a conscious, active agent who is "a not-less-than-personal reality," and who interacts with conscious beings at the emergent level of the mental.[68] Here we come to a vital component of Clayton's divine action proposal: Clayton suggests that because a God who does things must be a personal agent, then there must be an analogy between human and divine action. That is, hierarchical patterns of emergence in nature suggest something critical about how nature relates to God. "Emergent causal levels," Clayton argues, "reflecting the hierarchical structure of the natural world, help to elucidate the nature of divine action, though they are not identical to it."[69] The idea here is that our understanding of the emergent, hierarchical structure of reality says something about the God-nature relationship – in this sense, Clayton is working with a sort of natural theology.

This is where the emergentist emphasis on downward causation becomes important: just as human mentality has real causal efficacy in the natural world without contravening the laws of nature (or being reducible to them), so is there warrant in viewing God as a causally efficacious personal agent. There is thus a continuity between Clayton's emphasis on the mind as ontologically open and distinct, and God's action as a personal agent: "[Clayton] moves from establishing the complexity of human mental states to arguing for the plausible ontological openness of human mentality to establishing the possibility of divine influence at the level of

[67] Clayton and Knapp, *The Predicament of Belief,* 57.
[68] Clayton, *Adventures in the Spirit*, 210.
[69] Ibid., 190.

informational input to finite agents."[70] It is noteworthy that Clayton is here moving beyond a merely analogical relationship between human and divine agency. Indeed, he is strengthening analogy into ontology, using physically underdetermined mental agency as justification for affirming divine agency at the level of the mental. Clayton argues that "although thought is a natural phenomenon it is not determined by physical laws and is upwardly open to higher types of causality. It is permissible to construe divine causality as one of these higher levels of causality."[71] But here we have a problem: emergence deals strictly with natural phenomena, and while the mind may be ontologically distinct from the brain, emergence theory insists that it is yet fully natural. If God, as a sort of divine mentality, were to act downwardly on human minds, would this not render God as an emergent level of the natural world? If so, then Clayton's model would lie firmly outside of Christian theism, with its emphasis on divine transcendence and the ontological distinction between God and nature. Some emergentist theorists have indeed suggested this option, but Clayton is not one of them.[72] Indeed, Clayton recognises that "most forms of theism are (rightly) highly reticent to construe God as merely an emergent feature of the world."[73] The theistic emergentist may avoid mind-body dualism, but only "at the cost of opening up a theological dualism elsewhere in his system, namely in his conception of the relationship of the divine nature to the nature of the finite world."[74] Clayton thus rejects the idea that God is an emergent level of nature itself, but then what is the value of emergence for divine action theories? Moreover, if God does not exist in a directly emergent relationship to human minds, then why restrict divine action to human mentality in the first place?

Clayton anticipates these critiques, admitting that "once one abandons the thesis that divine causality is an emergent product of minds, the critic might complain, there is no longer any reason to expect that divine causation will be operative solely at the mental level. Given theological dualism, why should a direct divine influence on physical systems present any greater difficulties than a divine influence on human thought?"[75] Clayton's response to these critiques refers back to the general contours of emergence theories. That is, the sciences of emergence demonstrate that the entire natural world is hierarchically structured and fundamentally open to

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[70] Zachary Simpson, "Editor's Introduction: Adventures in Dialogue," in *Adventures in the Spirit*, 14.

[71] Clayton, *Mind and Emergence*, 189.

[72] For an example of an emergentist who somewhat collapses the ontological distinction between God and nature, see Samuel Alexander, *Space, Time, and Deity*, The Gifford Lectures for 1916-1918 (London: Macmillan, 1920).

[73] Clayton, *Mind and Emergence*, 190.

[74] Ibid., 184.

[75] Ibid., 191.

top-down influences. The observable natural world suggests that natural phenomena are open to downward causation from higher-level entities. The idea here is that emergence suggests a sort of reality that is always open to downward influence. Because mentality is the highest-order, most complex, most underdetermined natural phenomenon we know of, it makes sense that this would be the level at which God interacts with the natural world – or so the story goes.

Clayton is essentially arguing that the level of emergent mind is the most likely and plausible place for divine action to occur. For example, the level of reality governed by Newtonian physics might be the least likely locus of interaction (or causal joint) between God and the natural world. This is because "we have strong reason to think that these physical processes are deterministic," leaving little room for divine action to occur without contravening deterministic laws.[76] The level of the mind, however, seems ontologically open to higher forms of influence, and underdetermined by physical processes in the brain. Clayton goes so far as to argue that "divine claims are not equally defensible at all levels of the natural world…it is more plausible to maintain that God influences human moral intuitions and religious aspirations than to argue that God fixed the broken plumbing system in one's house."[77] Note that Clayton is not saying that God influences human consciousness by tinkering with individual neurons – that would clearly be interventionist. Rather, he is arguing that there are different *kinds* of causality, other than physical causation, at different emergent levels. The sort of physical causation involved in macro-level Newtonian physics is distinct from the biological and psychological causation evident at higher levels in nature. Clayton insists on locating divine action at the emergent level of conscious, integrated personhood; he defines this emergent reality as "*that level that emerges when an integrated state is established between a person and her body, her environment, other persons, and her overall mental state, including her interpretation of her social, cultural, historical, and religious context.*"[78] We see here the importance of not equating human mentality with neural processes. Clayton instead locates divine action at the higher-order, multifaceted, contextualised emergent level of human consciousness. The emphasis is not on the brain itself, but on the brain-body-environment system, which exhibits emergent levels of mentality that are irreducible to any single physical process.

[76] Ibid., 193.
[77] Clayton, *Adventures in the Spirit*, 197.
[78] Clayton, *Mind and Emergence*, 195.

How, then, does God interact with human mentality? Clayton describes this divine-human relationship in terms of information exchanges and a divine "lure." He argues that "no physical laws are broken if there is an exchange of information between a divine source and conscious human agents,"[79] and that "God could guide the process of emergence through the introduction of new information…and by holding out an ideal or image that could influence development without altering the mechanisms and structures that constrain evolution from the bottom up."[80] In a sense, God capitalises on the ontological freedom afforded to emergent minds, and is "allowed" to interact with human thoughts and subjective experiences precisely because those mental states are underdetermined by physical processes in the brain. Divine action, then, should not be thought of as direct alteration of the physical world, but as a persuasive lure in emergent mentality that might lead to physical action being undertaken by specific conscious subjects. In other words, "God's role becomes that of one who prepares and persuades, rather than one who 'brings about' human actions…At the same time, it does continue to ascribe a crucial role to God in 'luring' humanity and encouraging certain types of actions."[81] It is worth noting here how very limited is this sort of divine action. While this will be discussed below, it is important to highlight that Clayton's version of divine action is far more constrained and restrictive than the wide-ranging sorts of divine action generally affirmed by theists.

3.5 Emergent Divine Action and Panentheism

As appealing as Clayton's emergentist divine action proposal might be for those wishing to affirm both naturalism and theistic divine action, it faces at least one serious objection: as long as consciousness is considered to be fully natural (as Clayton affirms), divine action from a supernatural God must surely involve some sort of intervention, if only to bridge the theologically necessary ontological gap between God and nature. Put differently, if the whole reason for locating divine action in the emergent mind is that interventionism seems so unpalatable, it is not clear that the explicitly nonphysical God of Christian theism could operate at the same ontological level as emergent human mentality – at least not without sacrificing something of God's otherness, or altering physical realities. After all, even Clayton would admit that the mind is dependent on the brain, and operates only in intimate connection with neural processes. How, then, could God interact with the mind without also interacting with the

[79] Clayton, "Natural Law and Divine Action," 630.
[80] Clayton, *Adventures in the Spirit*, 202.
[81] Clayton, *God and Contemporary Science,* 200.

physical? While the scientific aspects of Clayton's theory will be addressed in below, it is here necessary simply to question whether Clayton's proposal really gets around the problem of intervention. As it turns out, Clayton anticipates this objection to emergentist divine action and introduces panentheism as a metaphysical solution, a framework of the God-world relationship that questions traditional natural/supernatural dichotomies and promises to ease the transition between divine and human mentality. Space constraints prohibit an in-depth examination of panentheism here, though it will be covered a bit more extensively in Part Two. For now, I will briefly highlight the function of panentheism in Clayton's divine action proposal.

In its most basic form, panentheism can be defined as "the view that the world is in some sense 'within' God, although God is also more than the world."[82] This is a model of the God-world relationship that challenges the dualistic model generally affirmed by classical theism. As discussed in Chapter 2, much of the divine action conversation assumes something like a self-sufficient natural world "over here," and a supernatural God "over there"; the trick is to articulate a way for God to come into the natural order and effect change. Clayton rejects this nearly-spatial relationship between God and nature, instead arguing that all of nature exists (somehow) within God, without compromising God's transcendence. As philosopher Charles Hartshorne expressed it, "we are truly 'outside' the divine essence, though inside God."[83] Panentheists believe that their God-world model is more aligned with contemporary science and philosophy than is classical theism, and that classical theism is no longer a viable option for contemporary thinkers. More specifically, Clayton believes not only that panentheism offers a vital metaphysical framework for emergent divine action, but that emergence itself *suggests* a panentheistic model. Emergence, suggests Clayton, "is therefore a conceptual structure, born in the crucible of the sciences, that can lead to the category of divinity or spirituality as an emergent property in evolution. But emergence is not in the end adequate to fully explain this property. Emergence propels one to metaphysics, and metaphysical reflection in turn suggests a theological postulate, panentheism, above and beyond the logic of emergence."[84] For Clayton, the hierarchical, ontologically distinct levels of reality in the natural world actually suggest a panentheistic model, wherein the natural world (specifically the mind) is fundamentally open to the God in whom it exists.

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[82] Clayton, *Adventures in the Spirit*, 118.

[83] Charles Hartshorne, "Introduction: The Standpoint of Panentheism," in *Philosophers Speak of God,* ed. Charles Hartshorne and William R. Reese (Chicago: University of Chicago Press, 1953), 22.

[84] Clayton, *Adventures in the Spirit*, 132.

How, then, does panentheism aid Clayton's emergentist divine action thesis? The main idea here is Clayton's emphasis on the analogy between human mental causation and divine causation: just as human consciousness is able to downwardly affect physical processes in the brain (and indirectly in the wider world) without being determined by those physical processes on which it is dependent, so is God able to downwardly affect human mentality. In Clayton's model, this analogy is strengthened into ontology – and it is panentheism that makes this so. As philosopher Zachary Simpson explains, "Clayton's account of divine action *requires* an ontological relationship between human consciousness and God, if there is to be any divine influence whatsoever upon the world. Or, in other words: Clayton's notion of divine agency extends what was cautiously extolled as an analogical relationship into an ontological relationship."[85] Because panentheism locates all the natural world within God, there is something of a permeable boundary between divine and natural realities. Just as the entire natural world exhibits ontologically distinct and causally irreducible emergent levels, so might the emergentist panentheist affirm God's ontological distinction over and above the natural world – even while incorporating the world into the "body" of God, as it were. Because Clayton affirms that God must be at least personal, and because nature exists within God, Clayton can then affirm divine agency precisely at the level of the emergent, conscious person. Clayton explains that "the highest known [emergent] level known to us is the emergence of mind or mental properties from the most complicated biological structure known to us, the human body and brain."[86] The emergent mind is thought to be more than physical, and affirmed as ontologically distinct from physical processes. It is at this emergent level that Clayton suggests as an ontological meeting point between God and nature: "So the relationship suggests itself: the body is to mind as the body/mind combination – that is, human persons – are to the divine."[87] This is worth emphasising: Clayton's emergentist divine action thesis only works if the analogy – God:world::mind:brain – is more than an analogy. Emergence theory alone does not suggest divine action, because emergent realities in chemistry, biology, and psychology are fully natural – as Clayton himself readily admits. As long as the panentheistic analogy above is simply an analogy, then there is no more reason to affirm divine action in the emergent mind than there is to affirm any physical instance of divine action. In

[85] Simpson, "Editor's Introduction," 16.

[86] Philip Clayton, "Panentheism in Metaphysical and Scientific Perspective," in *In Whom We Live and Move and Have Our Being: Panentheistic Reflection on God's Presence in a Scientific World*, ed. Philip Clayton and Arthur Peacocke (Grand Rapids, MI: Eerdmans, 2004), 84.

[87] Ibid., 83.

other words, panentheism is what allows Clayton's emergentist divine action to escape the charge of interventionism he is so keen to avoid.

However, panentheism faces serious critiques. By situating the entire panentheistic universe-as-a-whole within the divine being, Clayton is able to imagine God working through emergence to bring about particular events in the world – but exactly how this occurs is altogether vague. Moreover, panentheism has serious problems as a theological model; as Aquinas scholar Michael Dodds concludes, "Despite its efforts to tread a middle course…panentheism seems to collapse inevitably into pantheism."[88] To the extent that Clayton's emergentist panentheistic analogy reflects ontology, the model veers precariously close to a pantheistic metaphysic. On the other hand, paradoxically, to the extent that panentheism insists that God is somehow "more than" and not dependent on the natural world, it is unclear how it is to be distinguished from more traditional theism. That is, panentheism may not offer anything that is fundamentally unavailable to a robust theistic account of God's immanence in nature. While panentheism is appealing insofar as it takes both the natural world and divine immanence very seriously indeed, there may be theological reasons to prefer standard theism. Of course, Clayton's approach is not the only version of panentheism available, and this metaphysical option will be revisited in Part Two. Here it is enough to recognise that Clayton's emergentist divine action proposal is dependent on a panentheistic metaphysic, and is thus vulnerable to any critiques of panentheism more generally – though it is also the panentheistic metaphysic that allows Clayton to affirm God-mind interaction.

3.6 Evaluating the Emergentist Divine Action Proposal

This, then, is Clayton's emergentist, panentheistic divine action proposal: because ontologically distinct emergent phenomena are inherent features throughout the natural world, and because a panentheistic metaphysic allows the emergent mind to exist in ontological hierarchical relationship to God, a limited account of divine agency is rendered a plausible option – both scientifically and theologically. But does Clayton's divine action theory stand up to scientific and theological scrutiny? In this section, I suggest that Clayton's divine action proposal is lacking on three fronts: it is unwarranted by emergence theory itself, it threatens the ontological distinction

[88] Michael Dodds, *Unlocking Divine Action: Contemporary Science & Thomas Aquinas* (Washington, D.C.: Catholic University of America Press, 2012), 167.

between God and nature, and it puts unnecessary theological constraints on the possibility of divine action. Additionally, Clayton's entire proposal rests on the assumption that a physicalist understanding of consciousness is inconceivable and impossible; this will not be addressed here, as it is the subject of the next chapter. The cumulative effect of these critiques is to suggest that Clayton's divine action proposal is, in fact, something of a God-of-the-gaps proposal not unlike its noninterventionist causal joint predecessors. That is, this emergentist proposal both makes poor use of scientific emergence theories, and assumes that a specific aspect of the natural world (i.e., the mind) is fundamentally unexplainable in physicalist terms.

Before examining these three critiques, it is important to note that emergence theory itself can be critiqued. For example, one could argue that the strong emergentist's rejection of reductive physicalism is basically an argument from ignorance. This is because strong emergentists deny, in principle, the explicability of higher-level phenomena such as consciousness in physicalist terms. In other words, Clayton and others affirm the mind's ontological distinctiveness and unpredictability not as a science-based conclusion, but as a philosophical assumption irrespective of increased scientific knowledge about the brain-body system. This a priori assumption about the mind's inexplicability is often framed in terms of the Hard Problem, which is the subject of Chapter 4. At the very least, this presumptive rejection of physicalist explanations puts emergentists in a rather uncomfortable position, vis-à-vis the various sciences. Second, strong emergentists are forced to deny the causal closure principle, because higher-order nonphysical phenomena are granted causal agency that is unavailable to lower-level physical components. Some theorists (such as Clayton) find this an acceptable and necessary price to pay. To the extent that an emergentist wishes to be aligned with some form of physicalism, however, her denial of causal closure renders her as something other than a proper physicalist (and perhaps something other than a proper naturalist more broadly, as will be discussed in coming chapters). In other words, the denial of the causal closure principle may be methodologically suspect – at least as far as scientists themselves are concerned. Finally, one might argue that strong emergence's assertion of downward causation is a paradoxical or incoherent position. For example, Kim has argued extensively against the "double-counting" of downward causation. Specifically, if an emergent phenomenon such as the mind is to cause change in the lower-level physical substrate of the brain, how exactly could this happen except through those lower-level neurons themselves? As Kim writes, "To think that one can be a serious physicalist and at the same time enjoy the

company of things and phenomena that are nonphysical, I believe, is an idle dream."[89] One might counter that strong emergentists are happy to be excluded from the "serious physicalist" club, but even Clayton emphasises monism – there is only one sort of fundamental "stuff" in the universe. In other words, to the extent that emergentists wish to be considered physicalists or monists at all, they face the challenge of explaining downward causation in nonredundant, nonphysicalist terms. These are just a few of the critiques that could be levied against emergence theory itself; the real task of this section is to question Clayton's specific application of emergence to divine action theory.

3.6.1 *Challenge #1: Scientific Critiques of Clayton's Proposal*

First, Clayton's emergentist divine action proposal faces scientific critiques. Namely, the scientific understanding of emergence theory does not allow for supernatural causation, and requires basic physical components (and *only* physical components) as the necessary substrate for emergent phenomena. Clayton's proposal is that "no natural laws are abrogated if and when the divine agent influences the outcomes of conscious processes – just as no laws would be broken if you actually come to hold some new beliefs based on reading [this] argument."[90] However, this assertion is wildly speculative, and wholly unsupported by emergence theories themselves. Examples of emergence throughout the natural world always involve a clear understanding of the physical mechanisms underpinning them, and even strongly emergent phenomena are still considered to be dependent on lower-level physical processes. Clayton's proposal, on the other hand, is altogether vague on the specifics of how, exactly, God could affect the human mind without affecting physical mechanisms. As Manning points out, "Clayton's account of divine action is by his own admission incapable of providing a comprehensive explanation 'in human-scientific terms how it is that God affects the person as such.'"[91] While this may be an inevitable challenge for any theology of divine action, it is unclear why scientific emergence theories are uniquely well-suited to divine action theories.

The emergentist divine action thesis, then, faces two scientific problems. First, scientific emergence theories recognise only those phenomena exhibiting clear dependence on physical

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[89] Kim, *Mind in a Physical World*, 120.
[90] Clayton, *Adventures in the Spirit*, 216.
[91] Manning, "Mere Summing Up?," 56.

substrates. This means that even the emergent mind is dependent on the brain-body-environment system – if God were to act at the level of the mental, this would presumably involve interaction with neural systems in the brain. After all, Clayton himself recognises the mind's dependence on the brain; consciousness is not some free-floating entity that can be affected apart from its physical substrates. Simpson, for example, explains that "increasing complexity need not imply ontological openness. The increasing complexity seen from cells to organisms to human consciousness may indeed signal a 'relaxation' of certain physical constraints and the emergence of different forms of causation, but it does not necessarily imply the evolution of the type of ontological openness which Clayton's account of divine action requires."[92] This is important, because an "ontological openness" is exactly what Clayton's proposal requires, if divine action is to be affirmed. After all, Clayton's theological motivation is to affirm divine action in a way that forgoes divine intervention in physical processes. And yet, "emergence does not authorize the prioritization of any particular form of agency or level, including God or the human mind"; how then can Clayton locate divine action in the emergent mind? Is this not a fatal misunderstanding of emergence itself? Simpson's point here is that Clayton's version of divine action would require a degree of ontological openness (read "independence from physical processes") that is not necessarily mandated – or even allowed – by emergence theories. In other words, if Clayton's divine action theory is truly noninterventionist, it would require an account of the mind that borders on dualism. The only way to avoid all interaction between God and the physical substrates of the brain is to divorce the mind from its neural substrates altogether – a move which Clayton clearly does not wish to make. It seems, then, that we are forced to make a choice: we can either acknowledge that divine action in the mind would require God's involvement with neural processes, or we can admit that God interacts with the mind at such an ontologically distinct level that it is effectively dualistic.

Second, scientific emergence theories not only do not require, but do not *allow* for downward causation from supernatural sources. As explained above, Clayton suggests "no physical laws are broken if there is an exchange of information between a divine source and conscious human agents."[93] But "information" is a precise scientific and mathematical term, and one which always requires a physical basis. This is not to say that some sort of interaction between humans and God does not take place, but that packaging this interaction in scientifically-constrained terms

[92] Simpson, "Editor's Introduction," 19.
[93] Clayton, "Natural Law and Divine Action," 630.

like "information" is problematic. Similarly, Clayton himself repeatedly emphasises that the emergent mind is natural; emergence does not require or encourage recourse to supernatural explanations for mentality. That is, emergence theorists recognise the mind as naturalistically explainable – and this would include all our thoughts, emotions, and even religious orientations. The problem here, though, is that Clayton risks causal overdetermination by introducing divine action at the level of the mind. Because emergence theory actually purports to explain consciousness naturalistically, "referring to a metaphysical or theistic source of additional causation may be seen as causal overdetermination. For many philosophers of mind, simply admitting some form of downward causation is a hard pill to swallow."[94] Emergence theories – at least as understood by scientists themselves – are wholly naturalistic and not intended as scientific justification for theological claims. To suggest that a non-physically-based divine agent could somehow act within brain-dependent human minds is not only unwarranted by emergence theory, it is precluded by methodological naturalism more broadly. Again, this is not to suggest that God cannot act within human minds or elsewhere (this thesis argues just the opposite), but that scientific emergence theories should not be used to support this move.

3.6.2 *Challenge #2: Emergent Divine Action and the God-World Distinction*

The second critique of Clayton's divine action thesis is that it threatens to undermine the God-world distinction. Insofar as Clayton strengthens the panentheistic analogy (God:world::mind:body) into ontology, he places God and nature on an ontological par with one another. The internal logic of emergence theory requires a continuity between hierarchical levels. While each emergent level might be unpredictably novel, irreducible, and exhibit downward causation, each level is still dependent on and comprised of its lower-level components. Clayton himself is intent on contextualising consciousness in an overall naturalistic pattern of emergence; he recognises the messy evolutionary and biological processes that resulted in sentient beings. But extrapolating emergent realities to include the divine-nature relationship violates this naturalistic continuity evidenced by emergent phenomena throughout nature – and which Clayton himself affirms. Again, this is because the downward causation exhibited by emergent phenomena is only made possible by the lower-level components on which the emergent phenomena is dependent. While Clayton attempts to address this problem of divine transcendence by contextualising his proposal within a panentheistic metaphysic, his use of

[94] Simpson, "Editor's Introduction," 18.

emergence theory actually undermines the panentheistic affirmation that God is somehow more than the world. Namely, in order for emergent downward causation to occur across the God-nature interface, God would have to be ontologically dependent on and even comprised of lower-level components in the natural world. Clearly, this is not Clayton's desired conclusion. It is true that one could say simply that God's relation to the natural world is *like* that of the mind to the body – but Clayton insists on transmuting that analogy into ontology. In order for his divine action theory to be truly emergentist, Clayton must allow for an ontological continuity between God and nature. Emergent levels of reality might be ontologically distinct insofar as they are somehow more than than their substrates and exhibit novel causal powers, but they still exist in ontological continuity with their lower-level substrates.

3.6.3 *Challenge #3: Emergent Mind and Constraints on Divine Action*

In addition to the two problems just outlined, the emergentist divine action proposal is arguably theologically insufficient insofar as it limits divine action. Within Clayton's model, the only direct influence between God and nature occurs at the level of consciousness. If God is to act specifically beyond the confines of the mind, this must occur indirectly via conscious decisions on the part of sentient beings. As Clayton explains, "God must persuade the agent in question to act in a particular way for [an] event to occur…intentional agents can be convinced or persuaded, whereas (as far as we know) rocks cannot be persuaded to act on their own – no matter how good the arguments."[95] It is worth emphasising how very limited is this form of divine agency; this "divine causality is better understood as a form of causal influence that prepares and persuades" at the level of mentality.[96] Beyond the inevitable tension between this limited account of divine action and Christian theology, tradition, and Scriptures, this model is also exceedingly anthropocentric. Is a theology of divine action adequate if it allows only for God's interaction with recently-evolved sentient beings? Surely this stands in tension with theological concerns for creation more generally. Clayton is aware of these challenges, admitting that although "it limits the efficacy of the divine will in the world, I nonetheless believe that this position is sufficient to sustain a viable and scientifically acceptable form of theism for today's world."[97] Still, one wonders whether Clayton's panentheistic framework might actually allow for divine action beyond the mind. After all, placing the entire natural world *within* God goes quite a

[95] Clayton, *Adventures in the Spirit*, 198.
[96] Ibid.
[97] Ibid.

long way to cross the ontological hurdles usually associated with divine action. In other words, once God and nature are related in a panentheistic ontology, are not the standard worries of intervention nullified? Perhaps ironically, it seems that Clayton is actually committed to the standard noninterventionist paradigm discussed in Chapter 2, when his panentheism would actually remove noninterventionism's metaphysical commitments outright. Indeed, the divine action possibilities afforded by panentheism will be discussed in Part Two. Here it is helpful simply to highlight how Clayton may be unnecessarily restricting divine action. This emergentist divine action theory may be in line with standard noninterventionist causal joint approaches, but the panentheistic ontology it requires negates the need for noninterventionist models in the first place. It is worth asking whether such a limited account of divine action is worth the theological price of rejecting a theistic God-world ontology.

3.7 Conclusion

This chapter has argued that standard, noninterventionist, causal joint theories of divine action are alive and well - namely in relation to consciousness. By examining Philip Clayton's use of emergence theory in developing a causal joint proposal, I have argued that metaphysical commitments to a noninterventionist paradigm lead to locating divine action in poorly understood areas of the natural world. Just as quantum mechanics was once deemed a plausible locale for noninterventionist divine action, so now has the ontologically distinct emergent mind been identified as a plausible nexus between God and nature. And yet, just as quantum divine action failed to be either scientifically plausible or theologically sufficient, so is emergent divine action unwarranted by emergence theory itself, and overly restrictive theologically. Indeed, insofar as Clayton's model specifically locates divine action in the underdetermined, emergent mind, it falls into the same sort of God-of-the-gaps thinking characterising noninterventionist causal joint models of decades past. The emergent mind may be underdetermined by brain processes (though not necessarily), but emergence theory yet categorises it as fully natural. Thus, the emergent divine action proposal misappropriates scientific emergence theories; it seems that Clayton "abandons a more strictly emergentist logic for the articulation and postulation of his theology."[98] This does not mean that God does not act in the human mind, but only that emergence theory itself does not allow for this theological move.

[98] Simpson, "Emergence and Non-Personal Theology," 420.

Moreover, Clayton's emergentist divine action proposal presupposes that the mind is fundamentally unexplainable in physicalist terms. He admits that his proposal "presupposes that human thought will not ultimately be explained in terms of physical or biological laws."[99] This assumption is a remarkably common one – so common, in fact, that it has been philosophically codified as the "Hard Problem of Consciousness," and attracted an enormous body of literature. The idea that the mind is somehow special, non-physical, and uniquely spiritual can be understood as an "intuitive dualism." Insofar as this intuitive dualism is a presupposition of Clayton's divine action thesis, and also an important part of subsequent chapters' discussion of naturalism (theistic and otherwise), it is worth examining in detail. It is thus to this Hard Problem that I now turn.

[99] Clayton, *Adventures in the Spirit*, 226.

Chapter 4

The Philosophy and Science of the Mind

4.1 Introduction

As demonstrated in the previous chapter, Philip Clayton's emergent divine action thesis is open to serious critique from within emergence theory itself. Specifically, the scientific understanding of emergence does not allow for consciousness to be viewed as uniquely spiritual or any less scientifically explainable than other emergent phenomena. Locating divine action in the emergent mind is thus an unwarranted step, scientifically speaking, and theologically insufficient insofar as it restricts divine action to the human mind. While Clayton does not consider himself a dualist, his consistent privileging of consciousness would suggest otherwise. Nevertheless, Clayton's premise that the mind is somehow something more than a physical process is an intuitive one, and one that is widely shared – not only in the general public, but (as will become evident) in academia as well. Clayton is by no means alone in privileging the mind as a nonphysical aspect of humans that is unexplainable in physicalist terms and uniquely open to divine (inter)action. What we find when examining positions such as Clayton's is that generally they are driven not by science, but from philosophy, intuition, or common sense. As such, arguments from science against the naturalisation of the mind are often ineffective. Those privileging the mind as uniquely nonphysical are apt to reject all scientific explanations of consciousness as insufficient, and as failing to actually address what has come to be known as the "Hard Problem of Consciousness" (or "Hard Problem," or "HP").

In this chapter, I will examine the Hard Problem and its link to theological proposals identifying the mind as uniquely spiritual and open to divine action. I will then present deflationary views on the HP from within the philosophy of mind. Then, in the next chapter, I will highlight several physicalist approaches to consciousness. These draw upon not only philosophy, but also the cognitive and natural sciences, and address the question, "Is consciousness best understood as physical, immaterial, natural-but-not-physical, or something else entirely – what exactly *is* consciousness?" I will argue that the Hard Problem is essentially a placeholder for a sort of intuitive dualism, or the commonsense hunch that our conscious selves are in some way distinct

and separable from our bodies. Further, this intuitive dualism is the driver for divine action theories that privilege the mind. Therefore, while there is a sizable literature devoted to critiques of dualism, I here focus solely on the HP because it is the philosophical articulation of the commonsense hunch underlying theologies that privilege the mind. In sum, this chapter critiques the philosophical presuppositions behind theological efforts to privilege human consciousness as uniquely nonphysical, and argues that there is good reason to assume the "in principle" explicability of consciousness from within a scientific perspective. The goal here is not to defend any one theory of consciousness, but merely to challenge the intuition that the mind is ultimately distinct from physical processes, and to legitimise the question of consciousness as a proper *scientific* problem. The position taken in this chapter is thus notably out of step with much of contemporary theology that would privilege the mind, but it is argued that there is methodological and scientific warrant for this.

4.2 The Hard Problem of Consciousness

Before getting into the HP itself, some clarifying remarks on terminology are needed. Academic writing on the mind and brain is notoriously complicated and prone to confusion, not least because consciousness is such an interdisciplinary subject. When cognitive scientists, philosophers, theologians, psychologists, and neuroscientists are all talking about the same subject matter, proper definitions of key terms often remain unspoken or become confused or conflated. This is particularly true with the terms physical/nonphysical, and natural/supernatural (or non-natural). What one considers to be "natural" can vary widely, with some using "physical" and "natural" interchangeably, and others affirming "naturalism" but not "physicalism."[1] Chapter 6 will be devoted to a more in-depth discussion of these distinctions, and naturalism in particular. For now, I will use "physical" to denote those entities or phenomena that are explicable wholly in the terms of physics.[2] In other words, "physicalism" is used to denote the position affirming only those entities or phenomena explicable in terms of energy, matter, and the relationship between them (so electrons, protons, neutrons, electromagnetism, gravity, etc.). Note that physicalism does not necessarily say that it is convenient or even possible to describe all phenomena with the *language* of physics – only that no nonphysical realities are involved in

[1] This will be discussed in Chapter 6, but also see Owen Flanagan, "Varieties of Naturalism," in *The Oxford Handbook of Religion and Science*, ed. Philip Clayton and Zachary Simpson (Oxford: Oxford University Press, 2008).

[2] Part 2 of this thesis is devoted to challenging the idea that *anything* can be "just physical" – but this designation will be used here in keeping with dominant scientific and philosophical practice.

those phenomena.[3] For example, physicalists would not necessarily attempt to analyse economics, music, or communism in the language or concepts of basic physics; most would recognise the expediency or even necessity of using the special sciences to fully understand these phenomena. Nevertheless, a physicalist would never invoke a decidedly nonphysical entity as an explanation.

Naturalism, on the other hand, can be conceived of more broadly than physicalism. A naturalist might acknowledge other entities or forces in the natural world besides physical ones. David Chalmers, as we will see, is one who posits consciousness as a fundamental but ultimately natural component of the universe. He and other naturalistic dualists affirm nonphysical realities, while still excluding supernatural forces or entities from their naturalistic explanations. As will be shown in Chapter 6, the distinction between physicalism, naturalism, and supernaturalism can become quite "fuzzy." For example, if scientists were to somehow identify a natural-but-nonphysical substrate for consciousness, would that substrate not just be incorporated into physicalism? One could argue that this is exactly what has happened in the scientific discoveries of quantum forces, dark matter and dark energy, and even electromagnetism: none of these were deemed "physical" until, finally, they *were*. This brings up the question of what we mean by the term "scientific." Almost by definition (insofar as the causal closure principle is assumed) modern science's commitment to methodological naturalism precludes any nonphysical entities in scientific explanations. As noted, however, the list of entities deemed "physical" has been an ever-growing one throughout history, and so has the list of phenomena being explained in scientific terms. In other words, what could not be scientifically (or physically) explained two hundred years ago might well be explainable today. Things get a bit fuzzier when the term "scientific" is applied to consciousness. In theory, Chalmers' naturalistic dualism might allow for scientific explanation of the mind, as long as "scientific" and/or "physical" were broadened to include consciousness as a fundamental component of the physical world. This will all be discussed further in coming chapters; for now, it is important only to note that in this chapter, I will use the terms "physical" and "natural" carefully. Use of the term "natural" implies that the more restrictive "physical" is not an appropriate label, and vice versa – "physical" is used in the restrictive sense, excluding nonphysical entities. "Scientific" will indicate a scientific explanation

[3] For more on this, see Chapter 3's discussion on strong and weak emergence. Some physicalists happily call themselves "reductionistic" and insist that all phenomena are in principle explainable in physicalist terms, while nonreductionists might assert the ontological distinction of higher-level phenomena, while still only acknowledging the basic constituents recognised by physics.

that does not utilise nonphysical entities, as currently defined in contemporary science. With that being said, we can now move on to the Hard Problem of Consciousness.

As discussed in Chapter 3, Clayton's argument that consciousness is uniquely open to divine action "presupposes that human thought will not ultimately be explained in terms of physical or biological laws."[4] This presupposition is an intuitive one; who among us finds it obvious that our rich mental lives are identical to scientifically explicable biological processes? Within the philosophical and theological traditions, this assumption of the mind's "specialness" has been defended in various ways, and with varying implications. In the contemporary literature, few have been as influential in defending the ontological distinctiveness of the mind as David Chalmers. Chalmers is a philosopher and cognitive scientist whose 1996 book *The Conscious Mind* has provided an academic focus for decades of multidisciplinary thought and research on the mind-body problem.[5] Because Chalmers' philosophical work on the HP has been such an important (and controversial!) focal point in consciousness studies, it is a useful lens through which to analyse the philosophical assumptions driving divine action theories such as Clayton's.

Chalmers argues that "the really hard problem of consciousness is the problem of *experience*. When we think and perceive, there is a whir of information-processing, but there is also a subjective aspect."[6] Immediately, then, we see that Chalmers makes a distinction between subjective experience and brain processes; it is this key distinction that forms the basis of the HP and, indeed, the mind-body problem more generally. The claim is that no amount of neurobiological knowledge could ever explain why, as philosopher Thomas Nagel puts it, "there is something that it is like to *be*" conscious.[7] It is important to note up front that in his analysis of the Hard Problem, Chalmers is effectively defining consciousness itself – this will become important in coming sections. Indeed, Chalmers defines consciousness by contrasting it with the physical processes from which it somehow arises. The question, he argues, is why neurobiological processes are accompanied by this additional element of phenomenal, subjective experience: "It is widely agreed that experience arises from a physical basis, but we have no good

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[4] Clayton, *Adventures in the Spirit,* 226.

[5] David J. Chalmers, *The Conscious Mind: In Search of a Fundamental Theory*, Philosophy of Mind Series (Oxford: Oxford University Press, 1996).

[6] David J. Chalmers, "Facing Up to the Problem of Consciousness," in *Explaining Consciousness – the "Hard Problem,"* A Bradford Book, ed. Jonathan Shear (Cambridge, MA: MIT Press, 1997), 10.

[7] Thomas Nagel, "What is it Like to be a Bat?," *The Philosophical Review* 83, no. 4 (1974): 436.

explanation of why and how it so arises. Why should physical processing give rise to a rich inner life at all?" [8] Moreover, "if any problem qualifies as *the* problem of consciousness, it is this one. In this central sense of 'consciousness,' an organism is conscious if there is something it is like to be that organism, and a mental state is conscious if there is something it is like to be in that state."[9] Chalmers recognises that the brain is somehow involved in conscious experience, but insists that subjective experience is the real core of consciousness, the really Hard Problem that is incapable of being addressed by the various brain sciences (at least as we now understand them). In other words, he argues that consciousness is not the *sort* of thing that could be addressed by cognitive science or other brain-related sciences.

This needs some unpacking. Key to Chalmers' argument is his distinction between the "hard" and "easy" problems of consciousness. The so-called "easy" problems "are those that seem directly susceptible to the standard methods of cognitive science, whereby a phenomenon is explained in terms of computational or neural mechanisms."[10] Chalmers (and Clayton, for that matter) fully appreciates the crucial role that the brain plays in producing conscious experience in humans. In fact, Chalmers' "easy" problems of consciousness include such phenomena as attention, behaviour control, an individual's access to his/her own internal states and an ability to report those states, and the ability to integrate information and react to the environment. According to Chalmers, cognitive science is capable (in principle if not yet in practice) of fully explaining all these aspects of consciousness scientifically, identifying the precise mechanisms that make them possible. All these phenomena can be considered functions of the brain, or cognitive abilities. Chalmers wants to distinguish between functions and abilities on the one hand, and the accompanying experience of phenomenal consciousness on the other: it simply *feels like* something to be conscious, and this experience is distinct from, and additional to, the functional processes that are part of conscious experience. In other words, the methodology of cognitive science is not the sort of thing that could possibly solve the HP; "to account for conscious experience, we need an *extra ingredient* in the explanation."[11] This dilemma is commonly referred to as the "explanatory gap" – the idea that the relationship between subjective experience and scientific knowledge will always remain mysterious.

[8] Chalmers, "Facing Up to the Problem of Consciousness," 11.
[9] Ibid.
[10] Ibid., 9.
[11] Ibid., 17.

One classic thought experiment used to illustrate the explanatory gap and the need for this "extra ingredient" in consciousness comes from philosopher Frank Jackson. Jackson formulated what has come to be known as the "knowledge argument" as a refutation of physicalist approaches to the mind.[12] He posited a scientist named Mary who knows everything about the science of vision and colour – but has never experienced colour herself. The thought experiment is best expressed in Jackson's own words:

> Mary is a brilliant scientist who is, for whatever reason, forced to investigate the world from a black and white room via a black and white television monitor. She specializes in the neurophysiology of vision and acquires, let us suppose, all the physical information there is to obtain about what goes on when we see ripe tomatoes, or the sky, and use terms like 'red,' 'blue,' and so on. She discovers, for example, just which wavelength combinations from the sky stimulate the retina, and exactly how this produces via the central nervous system the contraction of the vocal cords and expulsion of air from the lungs that results in the uttering of the sentence 'The sky is blue.' [...] What will happen when Mary is released from her black and white room or is given a color television monitor? Will she learn anything or not?[13]

It would seem that Mary would indeed learn something by experiencing colour first-hand. Surely Mary's own subjective experience of colour would give her a sort of knowledge that is fundamentally distinct from that learned from scientific methodology and explanations. Jackson's point is that there is more to phenomenal experience (often referred to as "qualia" in thought experiments like this) than what can be described scientifically. Consciousness is not reducible to neuroscientific knowledge about the brain; first-hand experience is a qualitatively different entity. There have long been heated debates surrounding Mary and the knowledge argument.[14] The key here, however, is that for those like Chalmers and Jackson, conscious experience cannot be reduced to the sorts of explanations generated by cognitive science or neuroscience; "*you can't explain conscious experience on the cheap.*"[15] Chalmers himself views consciousness as a fundamental part of nature, thus qualifying his approach to the mind-body problem as a form of naturalistic dualism. What is important for our purposes here, however, is

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[12] It is noteworthy that Jackson no longer finds this argument convincing. He writes: "Most contemporary philosophers given a choice between going with science and going with intuitions, go with science. Although I once dissented from the majority, I have capitulated and now see the interesting issue as being where the arguments from the intuitions against physicalism—the arguments that seem so compelling—go wrong." Frank Jackson, "Mind and Illusion," in *Minds and Persons*, ed. Anthony O'Hear (Cambridge: Cambridge University Press, 2003), 251.

[13] Frank Jackson, "Epiphenomenal Qualia," *Philosophical Quarterly* 32, no. 127 (1982): 130.

[14] For various perspectives on the knowledge argument, see Peter Ludlow, Yujin Nagasawa, and Daniel Stoljar, *There's Something About Mary: Essays on Phenomenal Consciousness and Frank Jackson's Knowledge Argument* (Cambridge, MA: MIT Press, 2004).

[15] Chalmers, "Facing Up to the Problem of Consciousness," 18.

Chalmers' basic denial that contemporary science could ever wholly explain consciousness, at least in physical terms. Chalmers' framing of the Hard Problem is an intuitive one. Nevertheless, Chalmers takes great pains to build a philosophical framework for his position, rendering it a formidable option in the philosophy of mind. While the nuances of this framework are worthy of detailed attention, the purposes of this chapter are served by an examination of one thought experiment: that of Chalmers' philosophical zombies.

In this thought experiment, Chalmers uses the possibility of philosophical zombies to illustrate the distinction between physical processes and conscious experience. According to Chalmers, a philosophical zombie is "someone or something physical identical to me (or to any other conscious being), but lacking conscious experiences altogether…This creature is molecule for molecule identical to me….but he lacks conscious experience entirely."[16] These hypothetical creatures are physically identical to conscious beings with all the same neural circuitry and even cognitive functioning that one might expect; this includes such capacities as information processing, behaviour control, awareness, cognition, sight, taste, and even the zombie's ability to *think* that it is conscious. In short, this being would have all the abilities and functions that Chalmers deems explainable by cognitive science – the so-called "easy problems" of consciousness. Whether or not such a being could ever exist in our actual world is beside the point; the emphasis here is on the mere conceivability of such a being. Evolution *could have* produced zombies, creatures physically identical to humans in every way, but lacking consciousness. Chalmers insists that because we can imagine a being having all the same physical characteristics as ourselves, but without the experience of conscious experience, then we must conclude that consciousness is a further fact about ourselves (and other conscious beings). Chalmers explains that "the fact that consciousness accompanies a given physical process is a *further fact*, not explainable simply by telling the story about the physical facts."[17] It is not *like* something to be a zombie, for they lack consciousness.

[16] Chalmers, *The Conscious Mind*, 94.
[17] Ibid., 107.

Chalmers' zombie argument is heavily philosophical, and has been fiercely debated over the years.[18] The key point, however, is that Chalmers works with a very commonsense sort of intuitive dualism, and this dualism takes for granted that our ability to conceive of a consciousness-less being physically identical to ourselves is an ontologically significant fact. Chalmers builds a philosophical framework around the intuition that there is more to conscious beings than physical facts (including neurological facts). Again, this sort of philosophical defence of dualism is immune to scientific critique – this argument is not a scientific one, but a philosophical one that is largely dependent on pre-determined definitions and frameworks (more on this below). Chalmers (and other philosophically-minded dualists) fully affirms that scientific methodology is fully capable, in principle, of offering full explanations of all the capacities and functions already described. Indeed, from the outside it would be theoretically impossible to know whether a zombie was, in fact, a zombie. One could theoretically *ask* if the being if it was having a conscious experience, but the epistemic distance inherent in the situation would prevent one from ever being sure that the being was conscious. This is because phenomenal experience is not the *sort* of thing that could be identified or explained from within the various brain sciences.

In short, then, the logical possibility of zombies supports dualism and undermines the explanatory power of physicalism.[19] The zombie argument is an important one because it addresses the key question of the mind-body problem: Is consciousness explainable in physical terms, or is consciousness a further, nonphysical fact about humans and other sentient creatures? The zombie argument is intended to demonstrate the explanatory insufficiency of physicalism; because we can imagine a being who is physically identical to conscious humans but who lacks consciousness, the physical story must not be the whole story. Importantly for the larger argument of this thesis, however, Chalmers himself does not consider his rejection of physicalism to be a rejection of naturalism more broadly. These distinctions will be discussed in further detail in the next chapter, but here it is helpful to emphasise that Chalmers subscribes to a naturalistic dualism, wherein consciousness is a fundamental component of the natural world – there is nothing necessarily spiritual about this brand of dualism. This is worth emphasising: not

[18] Indeed, in the philosophy of mind there has arisen something of a cottage industry surrounding zombies. For an introduction to the relevant arguments, see Robert Kirk, *Zombies and Consciousness* (Oxford: Clarendon Press, 2005).

[19] I use "logical" here in the technical sense of the word. Chalmers' argument for zombies and dualism is an analytical one, and this is often what legitimises it for philosophers of mind. Others, as we will see, would deny that a logical possibility carries any real significance for the consciousness question – especially when considering the "messy" realities of the evolutionary process in which consciousness evolved.

even dualists (or at least naturalistic dualists) would say that the mind is uniquely open to divine action.

Nevertheless, this is the sort of argument that could be seen as lending philosophical credence to theological appropriation. That is, having opened the door to consciousness as nonphysical, one might feel justified in affirming the mind as uniquely spiritual, or even affirming an immaterial soul. In other words, one might be tempted to think that Chalmers has done the "heavy lifting" of constructing a philosophical model disproving the physicality of consciousness. How one positively understands consciousness, one might say, is debatable – the key issue involves the mind's nonphysicality. And indeed, philosophical arguments such as Chalmers' have been appropriated for theological ends in defending both the mind as nonphysical and, similarly, the possibility of an immaterial soul. Clayton himself endorses Chalmers' formulation of the Hard Problem; indeed, one could see much of Clayton's emergentist divine action thesis as being built upon a version of Chalmers' work in this area (explicitly or otherwise).[20] As Clayton describes his own views, "Experience…does not seem to be the *kind* of thing that could be explained in terms of functions or structures, since one could completely know the structures or functions of some experience and still not know what it is to have that experience."[21] Again, Clayton does not consider himself a dualist – but his appropriation of the HP *is* a decidedly dualist move. Like Chalmers, Clayton sees the mind as ontologically distinct from the physical substrate of the brain – this leads to Clayton's emergentist proposition as discussed in the last chapter. Again, it is noteworthy that both Clayton and Chalmers frame their arguments such that they are immune to scientific critique from the outset. The basic philosophical paradigm under consideration precludes a scientific answer to the Hard Problem.

Clayton is not the only Christian scholar to make use of the Hard Problem and its related thought experiments. Richard Swinburne is arguably the most influential Christian philosopher dealing with the mind-body problem; he is especially relevant here, insofar as he relies on the Hard Problem to argue for an immaterial mind/soul. Swinburne is noteworthy for being an unapologetic substance dualist, and he argues his position using very similar arguments to Chalmers. In his 2013 book *Mind, Brain, and Free Will,* Swinburne talks about the Hard Problem

[20] See Clayton, *Mind and Emergence*, 120-125.
[21] Ibid., 133.

of Consciousness through his understanding of "privileged access." Conscious beings have privileged access to mental properties (i.e., scientific methodology is unable to gain the same sort of access into the mind). He defines a mental property as "one to whose instantiation in it a substance necessarily has privileged access on all occasions of its instantiations" and a physical property as "one to whose instantiation in it a substance necessarily has no privileged access on any occasion of its instantiation."[22] For Swinburne, a being is conscious if and only if it has privileged access to mental states; there is something it is *like* to have a mental state, and beings are not conscious if they do not have that privileged access. As with Jackson's "Mary," no amount of neuroscientific analysis could ever equate with a conscious individual's own experience. Moreover, Swinburne makes heavy use of conceivability arguments and thought experiments to argue for not only an immaterial mind, but also the Christian notion of the soul. After building a philosophical case that it is metaphysically possible for the conscious self to exist apart from the body, Swinburne writes: "Given that it is metaphysically possible that I become disembodied, it follows that – whether embodied or not – I need only a pure mental part, my soul, in order to exist. My soul therefore carries my 'thisness.'"[23] Space constraints prevent a more detailed analysis of Swinburne's work; he is worth mentioning because he offers such a clear and unapologetic example of appropriating the Hard Problem for theological purposes (though Swinburne does not always use that terminology). That is, Swinburne is working with the same basic hunch as Chalmers that the mind is ontologically distinct from the brain – what I have been calling an intuitive dualism – and then using philosophical arguments to argue that the mind is immaterial and uniquely spiritual or soul-like. But just how compelling are all these intuition-driven arguments against the physicality of consciousness?

4.3 Deflationary Views on the Hard Problem of Consciousness

One of the most striking features of the Hard Problem is just how freely its advocates admit the role that intuition and the seemingly self-evident play in their theories. In relation to the zombie thought experiment, for example, Chalmers writes, "I confess that the logical possibility of zombies seems…obvious to me. A zombie is just something physically identical to me, but which has no conscious experience – all is dark inside."[24] And again, he recognises that at a certain point we reach "a brute clash of intuitions of a sort that is common in the discussion of

[22] Swinburne, *Mind, Brain, and Free Will*, 67-68.
[23] Ibid., 170. Note that Swinburne here equates the soul with the mind.
[24] Chalmers, *The Conscious Mind*, 96.

deep philosophical questions. Explicit argument can help us to isolate and characterize the clash, but not to resolve it."[25] Indeed, for those affirming the strength of the Hard Problem, the discussion is almost always framed in such a way that consciousness is a priori assumed to be immune to scientific explanation. Consciousness intuitively seems qualitatively different from atoms and molecules, and philosophical arguments are thus constructed using the nonphysicality of consciousness as a sort of brute fact, or first principle.

But what happens when the Hard Problem does not seem all that hard? Surely not everyone would find it conceivable that a being could exist that is physically identical to us in every way, neuron for neuron, and yet lacks consciousness. After all, the evolutionary picture of biological life might at the very least give one pause; might it at least be possible that consciousness is contingent upon the "messy" processes of natural selection and biological evolution? Or what if we remain unpersuaded by Jackson's knowledge argument, sensing something "slippery" about the thought experiment's intended response that conscious experience is nonphysical? What are we to make of the "clash of intuitions" that is sure to result as contemporary science progresses in brain-related research? In short, it is unclear whether the intuitions and supposedly self-evident brute facts about consciousness are inviolable, or whether they are perhaps insufficient premises when used in serious argumentation. More broadly, it is unclear whether consciousness is the sort of thing that should be defined philosophically, or whether the mind is more properly a subject for the cognitive and brain sciences.

Indeed, many scholars working in the philosophy of mind and other consciousness-related fields flatly reject the Hard Problem, or at least question its strength in the face of the contemporary brain sciences. Philosopher Patricia Churchland, for example, is one of the key philosophers critiquing Chalmers' conceptualisation of the Hard Problem. Churchland challenges Chalmers' reliance on conceivability and imagination. In her words, "Whether we can or cannot imagine a phenomenon being explained in a certain way is a psychological fact about us, not an objective fact about the nature of the phenomenon itself."[26] Churchland suggests that insofar as Chalmers builds his arguments on premises involving what we can conceive as being possible (e.g., zombies) or not possible (e.g., a scientific explanation of consciousness), he is arguing

[25] Ibid., 167.

[26] Patricia Churchland, "The Hornswaggle Problem," in *Explaining Consciousness: The "Hard Problem,"* ed. Jonathan Shear, A Bradford Book (Cambridge, MA: MIT Press, 1997), 42.

inadequately from intuition. Again, "that someone can *imagine* the possibility is not *evidence* for the real possibility. It is only evidence that somebody or other *believes* it to be a possibility. That, on its own, is not especially interesting."[27] This critique applies equally well to Clayton and other theorists arguing that consciousness is not the kind of thing to be explained by science; if one cannot "just see" the supposedly obvious premise that consciousness is distinct from brain processes, then all subsequent arguments fail to be convincing.

For example, Chalmers assumes that "almost everybody, it seems to me, is capable of conceiving of this possibility" that a being physically identical to ourselves (a zombie) could exist, neuron for neuron, and yet lack conscious experience.[28] As will be shown, for many scientists and philosophers this is emphatically not a conceivable possibility. Scientists, for example, might emphasise the biological nature of consciousness, arguing that it is impossible to have all the same neural circuitry, brain activity, and brain matter as a conscious person, without, in fact, actually being conscious. Similarly, philosophers might argue that for zombies to be truly conceivable, one must first presuppose nonphysical consciousness – the very thing that the thought experiment is intended to prove. Indeed, arguments against a physicalist understanding of consciousness presuppose as fundamental the very thing they are meant to address – the seeming "otherness" of subjective experience. That is, Hard Problem arguments generally involve definitions of qualia or subjective experience that set apart conscious experience from the outset. By defining consciousness as the subjective experience that *accompanies* all the cognitive functions susceptible to scientific explanation (for example), such arguments so constrain the question of consciousness that it is almost impossible to answer – precisely because a proprietary definition of consciousness has predetermined which answers are valid.

Philosopher Valerie Gray Hardcastle argues that Chalmers is exactly right: "Scientific theories of consciousness won't explain the weirdness of consciousness to those who find the identity [of the mind and brain] weird" – the 'weird' non-physical ontology of consciousness just seems obvious."[29] In fact, it is worth questioning whether humans should even expect a scientific explanation of consciousness to "feel right" in the first place. After all, consciousness is one

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[27] Ibid., 38.

[28] Chalmers, *The Conscious Mind*, 96.

[29] Valerie Gray Hardcastle, "The Why of Consciousness: A Non-Issue for Materialists," in *Explaining Consciousness: The "Hard Problem,"* ed. Jonathan Shear, A Bradford Book (Cambridge, MA: MIT Press, 1997), 63.

phenomenon that humans have little (if any) objective distance from; we use our mind-brains to analyse the mind-brain. As psychologist Mark C. Price points out, "*even if a scientifically acceptable answer of some kind were staring us in the face, we may still not feel as if we had understood.*"[30] Our first-person perspective effectively prohibits any real distance between ourselves and the mind that we wish to explain. It thus seems unwise to evaluate scientific explanations for consciousness on the strength of their intuitive force alone – humans are almost inevitably biased. And yet, this intuitive force is exactly what Hard Problem theorists use as the foundation for consciousness theories. The problem, it seems, is that Chalmers, Clayton, and others are arguing *from* a dualistic intuition, rather than *to* it. The burden of proof is assumed to lie with those who would attempt to explain consciousness scientifically, rather than with those denying the explanatory potential of contemporary science by placing intuition-driven boundaries around science's proper sphere of authority.

Further, arguing from a place of intuitive dualism undermines the scientific methodology (and, by extension, scientific success) explicitly endorsed by many Hard Problem theorists. As Churchland writes, "The trouble with the 'Hard Problem' characterization is that *on the strength of a proprietary definition*, it rejects [potential scientific explanations] as wrong."[31] That is, those endorsing the Hard Problem define that problem in such a way that consciousness is differentiated a priori from all physical processes. This is the case even though Chalmers and others explicitly endorse scientific methodology for explaining all cognitive functioning; they justify this seeming inconsistency by preemptively excluding the mind from the realm of physical explanation. Such theorists are essentially defining consciousness as "subjective experience which is necessarily immune to scientific analysis." By defining consciousness in this way, scientific explanation is rendered irrelevant from the outset. By endorsing such an approach, "Chalmers' initial assumption about consciousness compromises widely held methodological canons of scientific theory construction that he himself avows."[32] Using the Hard Problem as the basis for a credible theory of consciousness (or of divine action, as in Clayton's case) is thus out of step with the long history of scientific methodology and discovery. Standard scientific practice does not "posit as fundamental that which we are seeking to explain."[33] While to many it may seem

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[30] Mark Price, "Should We Expect to Feel as if We Understand Consciousness?," in *Explaining Consciousness: The "Hard Problem,"* ed. Jonathan Shear, A Bradford Book (Cambridge, MA: MIT Press, 1997), 84.

[31] Churchland, "The Hornswaggle Problem," 38-39.

[32] Ibid., 45.

[33] Thomas W. Clark, "Function and Phenomenology: Closing the Explanatory Gap," in *Explaining Consciousness: The "Hard Problem,"* ed. Jonathan Shear, A Bradford Book (Cambridge, MA: MIT Press, 1997), 47.

obvious that the mind is ontologically other than the physical processes with which it is somehow involved, this is not a scientific conclusion; rather, "it is an epistemological fact about *us*."[34] Philosopher David Papineau gets at this same idea when addressing the explanatory gap. While Papineau recognises that the explanatory gap is often taken for granted even within contemporary philosophy of mind, he argues that "the feeling of an 'explanatory gap' arises only because we cannot stop ourselves thinking about the mind-brain relation in a dualist way…we think that there is an explanatory gap only because we haven't yet properly embraced the findings of science."[35]

Indeed, science has a long history of tackling seemingly mysterious phenomena and rendering them explicable in physical terms.[36] Taking a mysterious phenomenon (consciousness in this case) as a scientifically unexplainable brute fact about reality, or requiring an "extra ingredient" in addition to electrons, quarks, and molecules – this is exactly the opposite response from that which scientific methodology is intended to elicit. Modern science has been so successful precisely because it requires tackling, piece-by-piece, those phenomena that seem wholly inscrutable at the outset. Churchland agrees that while "consciousness is, certainly, *a* difficult problem, difficulty *per se* does not distinguish it from oodles of other neuroscientific problems."[37] Determining from the outset that consciousness is simply not the sort of thing that could be explained in physical terms is, quite simply, not how rigorous science works. As Clark explains, "the basic explanatory motive in science and philosophy is to incorporate heretofore inexplicable phenomena into an existing theoretical framework, modifying the framework only as minimally necessary to effect the incorporation. This motive is defeated by assuming at the very start that consciousness is a phenomenon that transcends the explanatory reach of existing theory."[38] This "basic explanatory motive" stands in stark contrast to Chalmers' assertion that consciousness is a fundamental part of the universe, which would require an expansion in our understanding of the basic "furniture" of reality. At the very least, it seems wise to assume that the impressive history of scientific methodology would at least warrant the search for a scientific explanation of consciousness – without, that is, supposing that consciousness is fundamentally other than physical.

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[34] Churchland, "The Hornswaggle Problem," 42.
[35] David Papineau, "What Exactly Is the Explanatory Gap?," *Philosophia* 39, no. 1 (2011): 5.
[36] For examples, see Churchland, "The Hornswaggle Problem."
[37] Ibid., 37.
[38] Clark, "Function and Phenomenology," 47.

This brings us to the third critique of Hard Problem approaches to consciousness: the possibly arbitrary distinction between so-called "easy problems" of consciousness and the Hard Problem. It is striking to note just how many cognitive functions and abilities Hard Problem theorists cede to scientific explanation. Again, Chalmers readily affirms that cognitive science is, in principle, up to the task of explaining everything from behaviour control and focused attention to information integration and mental recall; these easy problems are "straightforwardly vulnerable to explanation in terms of computational or neural mechanisms."[39] Chalmers claims that consciousness is something extra, something additional to all these cognitive functions; the hypothetical zombie would, after all, *act* like a conscious human, but would simply miss the "extra ingredient" of phenomenal experience. It is worth noting that many of the "easy" problems of consciousness have not been fully explicated by cognitive science; there is a lot that is unknown about cognitive functioning. It is perhaps ironic that Chalmers is more optimistic about the various brain sciences than are many scientists themselves: as philosopher David Hodgson's aptly expresses it, "the easy problems ain't so easy."[40]

In fact, Chalmers cedes so much to cognitive science that one wonders if there is anything left to be explained once the "easy" problems are addressed. Daniel Dennett is one of the most outspoken scholars on this point. He argues that all the cognitive functions that Chalmers deems "easy" comprise, in fact, the sum total of conscious experience. He argues that "whether people realize it or not, it is precisely the 'remarkable functions associated with' consciousness that drive them to wonder about how consciousness could reside in a brain. In fact, if you carefully *dis*sociate all these remarkable functions from consciousness…there is nothing left for you to wonder about."[41] This is made clearer when highlighting what these cognitive functions actually do: "My distraction and concentration, my unnameable sinking feelings of foreboding and my blithe disregard of some perceptual details…my ability to be moved to tears by a vivid recollection of the death of a loved one…These are *all* 'merely' the 'performance of functions' or the manifestation of various complex dispositions to perform functions."[42] If these and other functions are (in principle) prone to scientific explanation, what is left of the Hard Problem? Or

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[39] Chalmers, "Facing Up to the Problem of Consciousness," 10.

[40] See David Hodgson, "The Easy Problems Ain't So Easy," in *Explaining Consciousness: The "Hard Problem,"* ed. Jonathan Shear, A Bradford Book (Cambridge, MA: MIT Press, 1997), 125-131.

[41] Daniel C. Dennett, "Facing Backwards on the Problem of Consciousness," in *Explaining Consciousness: The "Hard Problem,"* ed. Jonathan Shear, A Bradford Book (Cambridge, MA: MIT Press, 1997), 35.

[42] Ibid.

similarly, as Churchland questions, why should the line between the "hard" and "easy" problems be drawn where it has been?[43] If science is able to uncover the mechanisms of so many of the functions and abilities that comprise our conscious lives, it seems at least possible that it could also explain why it "feels like something" to be conscious. Perhaps our intuitive dualism itself is a scientific problem subject to explanation.

This question of the (perhaps) arbitrary distinction between the easy problems of consciousness and the Hard Problem brings us back to the tricky task of defining consciousness in the first place. As noted above, Chalmers and other dualists structure their arguments around a "proprietary definition" of consciousness that excludes at the outset the possibility of scientific explanation. And as Dennett and others have noted, it may not be clear what is left of consciousness once one sections off the (in principle) scientifically explainable elements of cognitive functions and abilities. Consciousness is a notoriously difficult concept to define: we generally end up defining it using our (implicitly or explicitly) preferred philosophical assumptions about the mind in the first place. For the dualist, consciousness is defined along the lines of "what it is like" to be something. For the physicalist, consciousness is defined in terms of the functions, cognitive abilities, or neurobiology of the brain. It is telling that many of the brain-related sciences do not refer to consciousness *at all*. The Hard Problem is something of a cult favourite in contemporary theology (because it has been deemed so useful for preserving a spiritual component to humanity), but it is not a useful term in the brain sciences themselves; they just get on with the business of explaining those "easy" problems. For example, cognitive neuroscience textbooks may not contain more than a handful of references to consciousness; the term simply is not deemed useful for describing brain functioning or cognitive capacities.[44] I bring this up merely as a cautionary point for science-and-theology: what may seem scientifically impossible (a physical explanation of consciousness) might in fact be a reflection of a felt theological need for dualism. In other words, we may be defining ourselves into a Hard Problem. Part Two of this thesis is devoted to erasing this felt need in divine action theories, and offering a theological framework for physicalism.

[43] Churchland, "The Hornswaggle Problem," 38.

[44] For example, see Jamie Ward, *The Student's Guide to Cognitive Neuroscience* (Hove, UK: Psychology Press, 2006).

Thus far, I have argued that theories utilising the Hard Problem can be critiqued from multiple angles: they rely heavily upon intuition and conceivability, they often disregard both scientific methodology and the history of successful scientific explanations, and they cede so many cognitive functions to physical mechanisms that it may be difficult to see what is left of the Hard Problem. There are, unsurprisingly, many other objections to dualism. For example, one of the main problems with an immaterial mind is the problem of mind-body causation: how can an immaterial mind causally interact with the body? This challenge dates all the way back to the time of Descartes, when he was in dialogue with Princess Elisabeth of Bohemia. In response to Descartes' presentation of mind-body dualism, she questioned "how the mind of a man can determine the bodily spirits in producing voluntary actions, being only a thinking substance."[45] Indeed, the problem of causal interaction between the mind and brain is an ongoing problem for dualists: how can an immaterial mind affect the central nervous system such that physical change occurs in the world? Or, why does my subjective experience of being thirsty result in me going in search of a glass of water? Few would say that the immaterial mind has no causal relationship with the brain, but articulating the precise nature of that interaction becomes a challenge – this *is* the core mind-body problem, in fact. In any case, there exists a significant body of literature around this challenge to dualism – and again, there are many challenges. It is noteworthy here simply to highlight the sort of objections beyond the sort we have been dealing with thus far.

The main point of this chapter has been to challenge the philosophical assumption that scientific explanations are, in principle, unable to address consciousness - that the Hard Problem lies forever outside the explanatory scope of the natural sciences. The Hard Problem is a philosophical articulation of intuitive dualism, and this intuitive dualism seems to underlie much of the science-and-theology field's engagement with the mind. In particular, the Hard Problem a priori formulates the problem of consciousness to exclude a physicalist explanation, and divine actions theories often use this Hard Problem as philosophical justification for privileging the mind as uniquely spiritual. The Hard Problem and its critics have thus been a key focus not because this is the only relevant debate in consciousness debates (the problem of causal interaction is evidence that it is not), but because something like the Hard Problem seems to be a main driver for theological usage of the mind in divine action theories. The aim of this chapter

[45] In Forrest E. Baird, *From Plato to Derrida*, Philosophic Classics Series (New York: Routledge, 2016), 417.

has been to argue that consciousness is not an immaterial phenomenon forever outside the purview of scientific explanation, but that the success of scientific methodology at least warrants its inclusion as a proper object of study. With this in mind, I now turn to physicalist approaches to consciousness; these involve not only philosophy, but cognitive science and neuroscience as well.

Chapter 5

Physicalist Approaches to Consciousness

5.1 Introduction

The study of consciousness is a fascinating area not least because it is so inherently interdisciplinary. What is the proper field of study for mind-related questions? Is it philosophy, theology, cognitive science, neuroscience, psychology, or metaphysics? While the mind may once have been the exclusive domain of philosophers and theologians, Patricia Churchland notes the shifting academic landscape: "In general terms, the mind-body problem has ceased to be the reliably tangled conundrum it once was… (all the fields together and computation) have opened the door to an integration of neuroscience, cognitive science, and philosophy in a comprehensive theoretical framework."[1] As the various cognitive and brain sciences identify an increasing number of neural correlates for specific conscious experiences, and as philosophers of mind challenge various forms of intuitive dualism, the legitimacy of consciousness as a proper scientific pursuit is solidified. As we saw in the previous chapter, philosophical arguments about the mind are often based on an intuitive dualism, and there is good reason to be critical of arguments based on the Hard Problem. Namely, arguments against physicalist explanations of consciousness *presume* the ontological "otherness" of the mind, they rely too heavily on intuition and "common sense," and they fail to take scientific success and methodology seriously enough. In response, many scholars in the brain-related fields now argue that the success of contemporary science warrants a certain methodological scepticism of theories excluding consciousness from the realm of physical explanation. How, then, do scientists and philosophers approach the scientific study of consciousness?

The scientific study of the mind consists of an enormous body of literature and research, and only a few key approaches can be highlighted here. The goal in so doing is not to support one or another approach to consciousness, but to demonstrate that there is good reason to suggest that consciousness will be, in principle, explainable in scientific (and perhaps physicalist) terms. The

[1] Patricia Churchland, *Brain-wise: Studies in Neurophilosophy* (Cambridge, MA: MIT Press, 2002), 2.

implication of this, and a main argument of this thesis, is that science-and-theology theorists are unwarranted in locating divine action in the human mind – or more specifically, *confining* divine action to the mind because of its allegedly nonphysical nature. To that end, this chapter will highlight three broadly physicalist positions in the relevant literature: the identity theory of mind, functionalism, and nonreductive physicalism. Again, these three approaches do not cover all the scientific and philosophical approaches to the mind; rather, they are offered as examples of three markedly different (but still physicalist) ways of approaching the issue. In so doing, this chapter argues that at the very least, there is warrant to assume that consciousness is, in principle, no less natural or physical than any other feature of the world. While the previous chapter challenged philosophical assumptions surrounding the Hard Problem, this chapter is intended to be more constructive – offering various models in which consciousness can be understood in a physicalist framework. The purpose of this is to demonstrate not only that the Hard Problem is an insufficient starting point for science-and-religion, but also that leading approaches to consciousness do not justify theories of divine action that privilege consciousness as uniquely spiritual.

Before getting into the commonalities and distinctions between the key physicalist theories of consciousness, it is helpful to articulate the unified way in which they address the Hard Problem. According to philosopher Jaegwon Kim, physicalism is "the doctrine that all things that exist are entities recognized by the science of physics, or systems aggregated out of such entities. According to some physicalists, so-called nonreductive physicalists, these physical systems can have nonphysical properties, properties that are not recognized by physics or reducible to them."[2] Immediately, then, we see that while physicalists are committed to a certain type of physics-based explanation of consciousness, that explanation need *not* be eliminative in nature. Physicalists do not necessarily deny that consciousness exists, but only that consciousness is ultimately subject to the same sorts of physical explanations that high-level phenomena like economics, music, or humour are subject to. So while there is certainly an element of reductionism involved in all physicalist theories of consciousness (insofar as the only ontological constituents of reality are those recognised by physics), this does not mean that physicalists explain *away* consciousness. Rather, they generally recognise the existence of consciousness, but identify it in varying degrees with physical processes.

[2] Jaegwon Kim, *Philosophy of Mind*, 3rd ed. (Boulder, CO: Westview Press, 2010), 11.

According to most physicalists, then, the problem with the Hard Problem is its basic formulation of what consciousness *is*. According to Hard Problem proponents, "for any physical process we specify there will be an unanswered question: Why should this process give rise to experience?"[3] The perennial question, for Chalmers, is "*Why is the performance of these functions accompanied by experience?*"[4] Notice the language in these statements; consciousness is often portrayed as something "arising from" physical processes. Advocates of an immaterial or emergent mind consistently speak of conscious experience as an effect or product of the brain-body-environment system. Again, though, this way of speaking can lead to an implicit dualism, and physicalists are quick to reject this move. Hard Problem proponents assume that consciousness is "an 'effect' of an underlying process – and it is precisely this that we must question if we are to find the true place of consciousness in the world."[5] Physicalists reject the idea of consciousness' "extra ingredient," as this would require the unwarranted move of either positing consciousness as a fundamental piece of the universe's ontological furniture, or of relegating consciousness to the realm of the supernatural (as dualist theologians and philosophers such as Swinburne are happy to do). Rather, scientific approaches to the mind affirm that consciousness *just is* what it is to be a properly functioning brain-body-environment system. That is, physicalists often endorse an "argument from simplicity," otherwise known as Occam's Razor: if at all possible, the simplest explanation is to be preferred. Given the explanatory success of modern science, the argument from simplicity might suggest the "in principle" explicability of consciousness in physicalist terms. The details of this differ from theory to theory, but the general physicalist assumption is that consciousness is not a separate entity that is somehow *produced* by physical processes – it *is* those physical processes.[6]

5.2 Mind-Brain Identity Theory

Most everyone would agree that the mind is related to the brain in some way. It is simply the case that physical changes to the brain affect behaviour, personality, and subjective experience. This can be as dramatic as a Jekyll-and-Hyde change in personality brought about by significant

[3] Chalmers, "Facing Up to the Problem of Consciousness," 18.
[4] Ibid., 12.
[5] Clark, "Closing the Explanatory Gap," 45.
[6] Nonreductive physicalists might be the exception to this – many in this camp do speak of the mind as being physically based, but emerging from physical substrates. In other words, nonreductive physicalists sometimes sound as if they are working with a dualist conception of the mind. More on this will follow below.

brain trauma (as in the case of Phineas Gage), or as relatively mild as feeling a bit uninhibited after drinking alcohol. Brain imaging technology allows researchers to correlate even mundane experiences (such as seeing certain colours or feeling certain emotions) with specific neural patterns. Recent research even suggests that a "gut-brain axis" further links our conscious experience to the entire central nervous system: what we eat can significantly affect our mental experience.[7] And we all experience the causal relationship between mental states and physical actions: I feel a conscious desire to see my dog, so my brain communicates with my muscles in such a way that I push the correct buttons on my MacBook to reach my family on Skype. There is even a religious dimension to this; it is clear that specific types of brain stimulation bring about felt religious experiences.[8] The question, then, is not whether our consciousness is correlated with or dependent on specific brain states, but to what extent this is the case.

The mind-brain identity theory suggests, quite simply, that conscious experiences are in fact identical to brain states. Kim defines the mind-brain identity theory, or psychoneural identity theory, as the position that "advocates the *identification* of mental states with the physical processes in the brain….there are no mental events *over and above*, or *in addition to*, the neural processes in the brain."[9] This position is correlated with the rejection of the HP described above: there is no need to posit consciousness as an "extra ingredient" on top of all the physical processes of the brain and central nervous system. Take the experience of pain, for example. We know that people feel pain when C-fibres fire in the central nervous system. It is common to say that pain "accompanies" or "arises from" the C-fibre stimulation. Psychoneural identity theorists, however, would say that C-fibre activation *is* pain – the relationship is not one of correlation, but identification. Note that this sort of relationship between C-fibres and the experience of pain is not one that could be identified by philosophical reflection; rather, this is a matter for empirical scientific study.

What, then, are the arguments in support of the mind-brain identity theory? After all, a correlation between brain activity and conscious experience need not imply the identification of

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[7] For example, see Arpit Parmar, "Gut–Brain Axis, Psychobiotics, and Mental Health," *Asian Journal of Psychiatry* 22 (2016): 84-85.

[8] Andrew Newberg, for example, has done a significant amount of work on the neurobiology of religious experiences. For an overview, see Andrew B. Newberg, *Principles of Neurotheology*, Ashgate Science and Religion Series (Surrey, UK: Ashgate, 2010). Also see Eugene G. D'Aquili and Andrew B. Newberg, *The Mystical Mind: Probing the Biology of Religious Experience*, Theology and the Sciences (Minneapolis, MN: Fortress Press, 1999).

[9] Kim, *Philosophy of Mind*, 98.

the two. One philosopher who was key to the development of the psychoneural identity thesis was Ullin Place, whose 1956 article "Is Consciousness a Brain Process?" was the first modern formulation of the identity thesis. Place argued that the statement "'consciousness is a process in the brain'…is neither self-contradictory nor self-evident; it is a reasonable scientific hypothesis, in the way that the statement 'lightning is a motion of electric charges' is a reasonable scientific hypothesis."[10] Place did not deny that phenomenal experience was real, but only that this experience could not be explained as a function of the brain. In addition to Place, and in dialogue with him, was philosopher J.J.C. Smart. In his 1959 article, "Sensations and Brain Processes," Smart largely uses an argument from simplicity to defend the mind-brain identity thesis. He writes:

> Why do I wish to [argue for mind-brain identity]? Mainly because of Occam's razor…There does seem to be, so far as science is concerned, nothing in the world but increasingly complex arrangements of physical constituents. All except for one place: in consciousness…That [conscious states] should be correlated with brain processes does not help, for to say that they are correlated is to say that they are something 'over and above'… So sensations, states of consciousness, do seem to be the one sort of thing left outside the physicalist picture, and for various reasons I just cannot believe that this can be so. That everything should be explicable in terms of physics (together of course with descriptions of the ways in which the parts are put together-roughly, biology is to physics as radio-engineering is to electromagnetism) except the occurrence of sensations seems to me to be frankly unbelievable.[11]

In other words, given that modern science is committed to physical explanations for observed phenomena, and that *not* identifying the mind with the brain would seem to require additional ontological "stuff," we are methodologically justified in identifying the mind with the brain. There is a certain elegance in psychoneural identity theory, as it "brings the mental within the purview of physical theory, and ultimately our basic physics constitutes a complete and comprehensive explanatory framework adequate for all aspects of the natural world."[12] Note that this primacy of physics, while admittedly reductionistic, need not be accompanied by the negative connotations usually accompanying reductionism. Smart is not saying that everything is "just" electrons and quarks, but that electrons, quarks and other fundamental building blocks of contemporary physics are the only building blocks that exist. From these building blocks we get

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[10] U. T. Place, "Is Consciousness a Brain Process?," in *The Philosophy of Mind: Classical Problems/Contemporary Issues*, ed. Brian Beakley and Peter Ludlow (Cambridge, MA: MIT Press, 1992), 34.

[11] J. J. C. Smart, "Sensations and Brain Processes," *The Philosophical Review* 68, no. 2 (1959): 142.

[12] Kim, *Philosophy of Mind,* 101.

music, culture, economics, and humour. Psychoneural identity need not be equated with eliminativism.[13]

Related to the argument from simplicity, psychoneural identity is also supported by the "principle of inference to the best explanation." That is, a theory is to be preferred if it offers the best available explanation for given facts – in this case, the evident correlation between brain states and conscious experiences. As Kim notes, there are basically two explanatory arguments that can be used here. First, one might claim that "psychoneural identities give the best explanation of psychoneural correlations."[14] That is, the theory offers the best explanation for why I feel pain when my C-fibres are activated. Alternatively, we might say that "the identities, rather than explaining the correlations, explain certain other facts about mental phenomena that would otherwise go unexplained."[15] In this scenario, the identity theory would be the explanation for why we feel distressed when we are in pain – that is, why the physical feeling of pain is seemingly accompanied by emotional distress. In other words, by identifying the firing of C-fibres with pain, and identifying distress with a certain brain state, "these identities help us explain a psychological regularity in terms of its underlying neural mechanisms."[16] Both of these arguments suggest that psychoneural identity theory is the best explanation for the given facts.

A final argument for psychoneural identity theory, according to Kim, is the causal argument. The casual argument was championed by both David Lewis and David Armstrong, and Lewis encapsulates the position thus: "My argument is this: The definitive characteristic of any (sort of) experience as such is its causal role, its syndrome of most typical causes and effects. But we materialists believe that these causal roles…belong in fact to certain physical states. Since these physical states possess the definitive character of experiences, they must be experiences."[17] This argument can be stated in a more contemporary format. We begin with the premise that mental states have physical effects: I flinch when feeling pain, apologise when feeling guilty, and hug loved ones when I feel affection for them. The second premise is the causal closure principle: all

[13] As Tim Crane writes, "While both the identity theory and the eliminative physicalist agree that everything is physical, they disagree about which physical things there are. That is, the eliminativist denies that any of the physical things there are are mental." Tim Crane, *Elements of Mind: An Introduction to the Philosophy of Mind* (Oxford: Oxford University Press, 2001), 53.

[14] Kim, *Philosophy of Mind*, 103.

[15] Ibid., 103.

[16] Ibid., 109.

[17] David K. Lewis, "An Argument for the Identity Theory," *The Journal of Philosophy* 63, no. 1 (1966): 17.

physical events have physical causes. This is a basic principle of methodological naturalism and integral to scientific practice. Following these premises, the conclusion is that mental phenomena are physical phenomena.[18] In order for this *not* to be case, the argument goes, one would have to posit mental phenomena as explicitly other than physical, thus violating the causal closure principle. Of course, not everyone accepts the causal closure principle (more on this in Part Two), and some may find it acceptable that a nonphysical mind has effects on the physical world. Indeed, psychoneural identity may seem so unpalatable that one is willing to embrace epiphenomenalism - the idea that the mind exists but does not effect physical change. As Kim explains, "if you are unwilling to embrace psychophysical identity, you put the causal powers of mentality in jeopardy."[19] In other words, something has to give: one affirms that the mind *is* the brain and is thus able to have causal effect, that the mind is substantially "other" than physical but violates the causal closure principle (this would be Clayton's position), or that the mind is nonphysical and has no effect in the physical world.

Supporters of the mind-brain identity thesis recognise that the position is counterintuitive. Papineau admits that "we all experience an intuitive resistance to identifications of phenomenal kinds with material kinds. At an intuitive level, we are all implicit dualists."[20] This intuitive dualism is evident in the way consciousness is referred to even on a casual level: we speak of the brain "producing," "generating," or "giving rise to" consciousness, or the mind "emerging" from the brain. This language indicates a correlation between two distinct entities, as when fire "generates" smoke. This sort of language, Papineau argues, is used even by those insisting that they are not dualists. As he explains, "$H_2$0 doesn't 'generate', 'cause', 'yield' or 'give rise to' water. It *is* water. To speak of brain processes as 'generating' conscious states, and so on, only makes sense if you are implicitly thinking of the consciousness as ontologically additional to the brain states."[21] This is an important point. At the very least, it is vital to recognise that linguistic frameworks around consciousness are implicitly dualistic, and that it is extremely difficult to avoid thinking in those dualistic terms.[22] The upshot of this is not necessarily that the psychoneural identity theory is correct, but that the theory should not be rejected on the strength

[18] Kim, *Philosophy of Mind,* 113.
[19] Ibid., 114.
[20] Papineau, "What Exactly is the Explanatory Gap?," 11.
[21] Ibid., 11-12.
[22] Psychologist Paul Bloom argues that this intuitive dualism is actually an evolved part of human cognition. See Paul Bloom, *Descartes' Baby: How the Science of Child Development Explains What Makes Us Human* (London: W. Heinemann, 2004).

of intuition alone. Indeed, the cautions against intuition presented in the last chapter are equally valid here.

Unsurprisingly, there are serious critiques of the psychoneural identity theory. Perhaps the most forceful (and likely the most important) is that consciousness is, for many, an obvious brute fact about the world. While the argument from simplicity argues that Occam's razor demands the simplest explanation possible, one could say that consciousness *just is* a fundamental component of reality. That is, if immaterial consciousness is simply a reality to be accounted for, then Occam's razor would actually require its recognition as a nonphysical entity. Simplifying any further would be *over*simplification. This objection would reject Papineau's analogy, "as H_20 =water, so does mind=brain," for qualitative experience is self-evidently distinct from the brain. As for the principle of inference to the best explanation, critics of the identity theory would counter that the theory is not an explanation at all – let alone the best explanation. It is not clear that identifying brain states with subjective experiences is a satisfying explanation at all, as it seems to be equating two apparently distinct phenomena: brain processes and subjective experience. Scientific usage of the "inference to the best explanation" principle involves testability and an explanation about why seemingly distinct phenomena are, in fact, identical. As Kim argues, the explanatory argument's weakness "is a lack of clear appreciation of just what role the psychoneural identities play in the explanations in which they supposedly figure…both arguments invoke, but misapply, the rule of inference to the best explanation."[23] In other words, subjective experience and brain states are being identified with each other, but there are no external criteria justifying this identification, and no way that the identification could ever be proven.

Additionally, one major challenge to the identity thesis comes from the problem of "multiple realisability." Put forward by Hilary Putnam as a refutation of the identity thesis, this argument points out that organisms with nervous systems very different from humans can experience the same sorts of conscious states.[24] For example, the identity thesis claims that pain *is* C-fibre stimulation. But surely animals like reptiles and insects could experience pain, even though their brains and overall nervous systems are largely dissimilar to humans'. Even within the human

[23] Kim, *Philosophy of Mind,* 110.

[24] See, for example, Hilary Putnam, *Mind, Language and Reality,* Philosophical Papers, vol. 2 (Cambridge: Cambridge University Press, 1975).

species, no two brains are identical, and "highly specific brain mental states (e.g., having the belief that winters are colder in New Hampshire than in Rhode Island) can differ from person to person and may change over time even in a single person through maturation, learning, and brain injuries."[25] But the mind-brain identity thesis states that specific types of brain states are identical with specific types of mental states. Surely, for example, not everyone who believes in Santa Claus, for example, has the exact same neural state. In short, if a conscious state "is identical with a physical state, it must be identical with some *particular* physical state, but there is no single neural correlate or substrate" of these conscious states.[26] This problem of multiple realisability is often viewed as a fatal flaw in psychoneural identity theory: surely an adequate model of consciousness must take into account the reality that vastly different nervous systems experience the same general sorts of mental events (e.g., pain, pleasure, fear).

At this point in the discussion, it is helpful to highlight a distinction made in identity theory: namely, between "type" identity and "token" identity. A type identity indicates a scenario in which specific kinds of mental states (happiness, fear, hunger, etc.) are equated with specific neural states. This is a relatively reductionistic form of identity theory, and the one most susceptible to the problem of multiple realisability. For example, it is difficult to affirm the type identification of pain with C-fibre stimulation, when iguanas (for example) experience pain with an entirely different nervous system. Token identity theorists, on the other hand, would say that the mental experience of pain is identical to *some* neural state. Kim explains that token physicalism is "the thesis that although psychological types are not identical with physical types, each and every individual psychological event, or event-token, is a physical event."[27] Token identity theory, then, is a bit "looser" than is type identity: it merely states that all mental states are identical to some physical state, regardless of what that physical states turns out to be. As such, both an iguana and I (for example) could feel pain, but this pain would be instantiated very differently, depending on our respective neurobiological makeups. Perhaps unsurprisingly, token identity theory has been a preferred version of physicalism in the philosophy of mind. Importantly, however, both type and token identity theories are physicalist in nature – they both reject the plausibility of immaterial minds, and thus any identification of the mind as uniquely spiritual. This being said, identity theories are not the only physicalist option for understanding

[25] Kim, *Philosophy of Mind*, 121.
[26] Ibid.
[27] Ibid., 14.

consciousness. Token identity theory, in fact, is not dissimilar from functionalism, to which I now turn.

5.3 Functionalism

Essentially, functionalism is "the theory that mental states are distinguished from one another by their functional or causal roles."[28] In other words, mental states are characterised by what they *do*, rather than what they *are*; a mental state is defined by its job description. This is a familiar concept. For example, we might functionally define a heart as that entity which pumps oxygenated blood throughout the body. Under a functionalist definition, the heart need not necessarily be a biological organ of natural tissues and cells – it could be a synthetic purpose-built machine. Its identity would lie in its ability to perform certain causal roles. The key here is that the heart could be multiply realised – it could be a natural biological heart, or a synthetic plastic one, but it would still be a heart if it performed certain functions. The same principle would apply to mental states, such as the experience of pain. A functionalist might say that to be in pain is to be in a state that is caused by bodily harm, produces the desire for the cessation of the experience, and is accompanied by tissue-preserving withdrawal behaviour (e.g., pulling one's hand away from a stove). With a functional definition like this, an iguana could experience pain no less than could a human – even though the neural instantiation of that pain would be biologically distinctive for each. To put this differently, "having a mind is simply a matter of being a system organized in the relevant sort of way."[29] This is thus a theory of mind that, while remaining physicalist,[30] is generally seen as less reductive than psychoneural identity theory, which narrowly identifies mental states with specific brain states. In fact, after the identity theory's popularity in the mid-20th century, functionalism's nonreductive elements rendered it the model of choice for philosophers of mind – and, importantly, for the burgeoning field of cognitive science.[31]

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[28] Crane, *Elements of Mind*, 145.

[29] Robert van Gulick, "Functionalism and Qualia," in *The Blackwell Companion to Consciousness,* ed. Max Velmans and Susan Schneider (Oxford: Blackwell, 2007), 381.

[30] Strictly speaking, functionalism *could* allow for immaterial entities, and this could be seen as a weakness of the theory. That is, nonphysical entities could theoretically contribute to the overall functioning of an entity. Nevertheless, most (nearly all) functionalists would identify themselves as physicalists.

[31] Kim, *Philosophy of Mind,* 129.

Indeed, many of the most outspoken critics of the Hard Problem are functionalists. Again, Chalmers' challenge to physicalism is this: "When we have explained the performance of all the cognitive and behavioural functions in the vicinity of experience…there may still remain a further unanswered question: *Why is the performance of these functions accompanied by experience*? A simple explanation of the function leaves this question open."[32] Functionalists reply that Chalmers is flatly mistaken. As Daniel Dennett counters, "Whether people realize it or not, it is precisely the 'remarkable functions associated with' consciousness that drive them to wonder about [consciousness]…if you carefully *dis*sociate all these remarkable functions from consciousness…there is nothing left for you to wonder about."[33] Functionalists identify mental states with functional roles, and in so doing bypass (or attempt to bypass) the question of the "extra ingredient" of subjective experience. Conscious experience *just is* what it is for a brain-body-environment system to be performing all the functions typically associated with the concept of "consciousness." These could include memory, attention, behaviour control, access to internal states, and the integration of information: again, all the functions that Chalmers labels the "easy" problems of consciousness.

Functionalism comes in multiple varieties. The 20th century pioneer of functionalism was Hilary Putnam, who championed what has come to be known as "machine functionalism." Machine functionalists "explicate mental states and processes in terms of abstract computational relations such as those that define Turing machines and other sorts of formal automata."[34] When one thinks of consciousness as the "software" running on the "hardware" of the brain, it is a version of machine functionalism with which one is working. Consciousness just is the state of the brain that maps certain inputs to certain outputs. Speaking of pain as a conscious state, Putnam explained his position thus: "I shall, in short, argue that pain is not a brain state, in the sense of a physical-chemical state of the brain (or even the whole nervous system), but another *kind* of state entirely…[P]ain, or the state of being in pain, is a functional state of a whole organism."[35] When our nervous systems receive the inputs of painful stimuli, the appropriate mental state of "pain" leads to an output: jerking a hand away from the stove. Note that machine functionalism also addresses the problem of multiple realisability, as many different types of physical systems could

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[32] Chalmers, "Facing Up to the Problem of Consciousness," 203.

[33] Dennett, "Facing Backwards on the Problem of Consciousness," 5.

[34] Robert van Gulick, "Functionalism," in *The Oxford Handbook of Philosophy of Mind,* ed. Brian P. McLaughlin, Ansgar Beckermann, and Sven Walter (Oxford: Clarendon, 2009), 132.

[35] Putnam, *Mind Language, and Reality,* 433.

realise the computational programming we think of as consciousness. In fact, this is part of the foundation of artificial intelligence.

On the other end of the functionalist spectrum is teleofunctionalism.[36] Teleofunctionalists criticise machine functionalism for being too liberal; according to the machine functionalist, any appropriately complex system should be considered conscious, even when this seems not to be the case.[37] In other words, if machine functionalists have explained consciousness, then why is my MacBook not conscious? Machine functionalism's strict commitment to multiple realisability renders it implausible, for many – it seems unlikely that any sufficiently complex system would be conscious in the same way that humans are. Teleofunctionalism moves away from this computational theory of mind, to an appreciation of the biological nature of sentient beings. This view takes evolution seriously, emphasising that mind-brains seem to have evolved over long periods of time in accordance with natural selection to enhance the biological likelihood of species survival. In short, "the basic purpose of minds and of particular mental structures is to enhance the successful engagement of organisms with their worlds."[38] If this is the case, then mental "functions" are akin to the functions of other biological systems. Just as the function of the heart is to pump blood throughout the body (thus keeping the organism alive), so is the function of, say, memory to archive and access memories necessary for the biological wellbeing of the organism. This is not mere computation; teleofunctionalism introduces the concept of "purpose" into the functionalist account. One benefit of teleofunctionalism is that it moves theory of mind away from philosophical abstractions and grounds it in a broader evolutionary and biological framework. That is, teleofunctionalism says that consciousness is just what it is to have evolved into a functioning brain-body, and this brain-body is the product of a long history of natural selection. An evolutionary view of the brain leaves no room for an "extra ingredient" in consciousness. Though not a functionalist himself, philosopher Ned Block agrees that an adequate theory of consciousness must be profoundly biological. He writes, "It is hard to avoid the impression that the biology of the brain is what matters to consciousness – at least the kind

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[36] For a helpful discussion of teleofunctionalism and its merging of functionalism with biology, see Karen Neander, "Teleological Theories of Mental Content: Can Darwin Solve the Problem of Intentionality?," in *The Oxford Handbook of Philosophy of Biology*, ed. Michael Ruse, 381-409 (Oxford: Oxford University Press, 2008).

[37] For example, see John Searle's Chinese room argument in John R. Searle, "Minds, Brains, and Programs," *Behavioral and Brain Sciences* 3, no. 3 (1980): 417-24. Also see Ned Block, "Troubles with Functionalism," *Minnesota Studies in the Philosophy of Science* 9 (1978): 216-325.

[38] Van Gulick, "Functionalism," 134.

we have."[39] Insofar as humans are continuous with other animals and composed of the same basic stuff as all evolved life forms, identifying consciousness with the functioning of the evolved biological brain may seem a warranted conclusion.

There are other versions of functionalism,[40] but they all characterise consciousness by its functions, rather than identifying it with a specific brain state. For a functionalist, to be conscious is to have a working brain-body that is able to perform cognitive functions. As Kim summarises, "to be in pain *is* to be in a state that plays pain's causal role."[41] It is important to remember that functionalism is not the same as the psychoneural identity thesis: functionalists do not say that every mental state is identical to, or reducible to, a *specific* neural state.[42] Rather, the mind is the sum total of its functional capacities at any given point, regardless of its distinctive physical substrates. This being said, functionalists generally consider themselves physicalists as well. That is, subjective experience is not something extra on top of cognitive functions; it *is* the state of an organism engaging in these functions. Thus, we see here that functionalism is actually compatible with token identity theory, which basically just states that every conscious state is identical to *some* physical state. In any case, functionalism is generally considered less reductive than mind-brain identity theory, even though both approaches should be considered physicalist: the mind has no ontological status distinct from a physical organism.

Naturally, functionalism has its critics, who often ask why some functional systems seem to be conscious (humans), while others do not (my MacBook). That is, according to functionalism, "consciousness is characterized by an abstract structure that does not include the messy details of neuroscience."[43] If neurons were replaced with electric fuses in exactly the same organisational network, would that "brain" be conscious? Because functionalism endorses multiple realisability, it is vulnerable to the charge that it fails to adequately explain the stark difference between conscious experience and a computer programme. This critique became famous in Ned Block's "China brain." In this thought experiment, we are asked to imagine that all the people in China

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[39] Ned Block, "Comparing the Major Theories of Consciousness," in *The Cognitive Neurosciences*, 4th ed., ed. Michael S. Gazzaniga (Cambridge, MA: MIT Press, 2009), 1120.

[40] See Robert van Gulick, "Functionalism."

[41] Kim, *Philosophy of Mind*, 327.

[42] That being said, functionalism is compatible with token identity theory – indeed, one could even say that functionalism is a form of token identity theory. See Maureen Eckert, "Functionalism," in *Theories of Mind: An Introductory Reader,* ed. Maureen Eckert (Lanham, MD: Rowman and Littlefield, 2006), 46.

[43] Block, "Comparing the Major Theories," 1111.

are reordered in such a way that they collectively mimic the organisation of the brain's neural connectivity. Then, we imagine that each human "neuron" is given a radio with which to communicate to its neighbours – this "China brain" would have functional capacities and an organisational structure that were identical to a human brain. But would this "brain" be conscious? Perhaps - but if not, as Blocks argues, then a major weakness of functionalism has been exposed.[44] Beyond this critique, unsurprisingly, functionalists still face the question of the Hard Problem. Chalmers would argue that functionalists have failed to explain subjective experience, and that consciousness is not the sort of thing that could be described in functional terms. Again, Chalmers would have no problem affirming that cognitive science can indeed explain the functions of the brain – but consciousness is not a *function* for dualists. Still, functionalism remains a dominant framework in consciousness studies and, indeed, provides something of a philosophical framework for cognitive science.

5.4 Nonreductive Physicalism

A third approach to consciousness, and likely the most popular in science-and-religion, is nonreductive physicalism.[45] In terms of the study of consciousness, nonreductive physicalism "denies the existence of a nonmaterial entity, the mind (or soul), but does not deny the existence of consciousness… In brief, this is the view that the human nervous system, operating in concert with the rest of the body in its environment, is the seat of consciousness (and also of human spiritual or religious capacities."[46] This is essentially a statement against reductionism, rather than a positive statement about what nonphysical higher properties actually are. Another way of explaining the position is to say that nonreductive physicalists affirm the distinctiveness of certain properties (i.e., consciousness), without positing any extra ingredients in addition to the basic "stuff" of the universe. In other words, "the psychological properties of a system are distinct from, and irreducible to, its physical properties."[47] Thus, nonreductive physicalism maintains two commitments: it is *nonreductive* insofar as it refuses to reduce consciousness to brain activity, and it is *physicalist* insofar as it denies an immaterial "something extra" in

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[44] See Block, "Troubles with Functionalism."

[45] The relationships between the three positions (psychoneural identity theory, functionalism, and nonreductive physicalism) are not always clear. For example, a token identity theory is compatible with functionalism, and some versions of functionalism are compatible with nonreductive physicalism. Regardless, these are three frameworks that attempt to address (or refute) the Hard Problem by offering alternative ways to understand the mind.

[46] Nancey Murphy, "Physicalism Without Reductionism: Toward a Scientifically, Philosophically, and Theologically Sound Portrait of Human Nature," *Zygon* 34, no. 4 (1999): 555.

[47] Kim, *Philosophy of Mind,* 13.

consciousness. Philosopher Tim Crane explains that "a non-reductive version of physicalism which is worthy of the name, then, must be committed to the completeness of physics."[48] But how can nonreductive physicalism have it both ways? Is nonreductive physicalism a coherent position, or is this a classic case of wanting to "have one's cake, and eat it too"?

In addressing this question, it is first helpful to highlight the motivations behind nonreductive physicalism, as well as its basic tenets. Given the intuitive force of the Hard Problem, as well as a general growing appreciation for nuanced complexity in mind-brain discussions, it is hardly surprising that the "nonreductive" in nonreductive physicalism is so appealing.[49] As Kim notes, "the word 'reductionism' seems by now to have acquired a negative, faintly disreputable flavor – at least in philosophy of mind,"[50] and "many of us have the feeling that there is something rigid and narrow-minded about reductionist strategies. Reductionisms, we tend to feel, attempt to impose on us a monolithic, strait-jacketed view of the subject matter."[51] Few would suggest that economics, humour, music, or culture could be reduced to explanations in physical terms alone; rather, there is a general recognition that these higher order phenomena require their own special sciences in order to be analysed adequately – and so with the mind. Yet, even as these strictly nonphysical phenomena are distinct, in a sense, from the language of physics, many would deny that a full description of them requires reference to nonphysical "stuff." The question then becomes one of how, exactly, to understand the relationship between physical processes and nonphysical realities.

Nonreductive physicalists take as their starting point the rejection of both reductionism and the psychoneural identity thesis. At the very least, multiple realisability shows that conscious states are not identical to specific physical states; and, "if entities are not identical, then they are distinct, however else they may be related. There are two kinds of thing, not one: this is dualism, like it or not."[52] The question is what *kind* of dualism we are talking about. Nonreductive physicalists are quick to reject substance dualism – otherwise, they would not be physicalists. Rather, they subscribe to property dualism, or the idea that "one may associate different

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[48] Crane, *Elements of Mind*, 57.

[49] Although, perhaps ironically, the various forms of dualism are reductionist in a sense, positing consciousness as a brute, fundamental fact about the world.

[50] Jaegwon Kim, "The Myth of Nonreductive Physicalism," *Proceedings and Addresses of the American Philosophical Association* 63, No. 3 (1989): 32. pp. 31-47

[51] Ibid., 31.

[52] Crane, *Elements of Mind*, 57.

properties, e.g. mental and physical, with one and the same owner, the brain as physical substance…There is only one substance, the physical body, which may have two properties, mental and physical."[53] That is, conscious beings do not possess an immaterial mind or soul in addition to their physical bodies, but consciousness is no less real for that. The mind is a high level, emergent reality that is ontologically significant on its own terms, in spite of its dependence on the physical substrate of the brain. If all this sounds remarkably familiar from the previous chapter, it is because emergence theory is arguably the dominant nonreductive physicalist approach to the mind. As emergence was discussed in detail in relation to Clayton's divine action proposal, I will not discuss it further here. The same descriptions and critiques found in Chapter 3 can, broadly speaking, be applied to nonreductive physicalism more generally. Still, it is helpful to go over some of the details in this context.

Philosopher Nancey Murphy is one of the most prominent nonreductive physicalists working in science-and-religion and, as seen above, she affirms that "the human nervous system, operating in concert with the rest of the body in its environment, is the seat of consciousness."[54] But what does it mean to say that the nervous system is "the seat of" the mind? What is the precise relationship between the brain-body system and the subjective experiences of conscious beings? Broadly speaking, nonreductive physicalists explain this by relying on the concept of supervenience, or the idea that the mind is so closely related to, and dependent on, the brain that changes in one correspond to changes in the other. There are a variety of technical definitions for this, and several subtypes of supervenience.[55] One simple definition is this: "A supervenes on B when there is no difference in A without a difference in B…or, in other words, physical duplicates must be aesthetic duplicates too."[56] Again, there are many shades of nuance in the debates over supervenience, but the key is that it indicates a relationship between the mind and brain that is more than mere correlation, but less than outright identification. The exact nature of this supervenience relationship is hotly debated.[57] For nonreductive physicalists, the brain-body is the "seat" of consciousness because it is the physical substrate that instantiates mental activity.

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[53] Georg Northoff, *Minding the Brain: A Guide to Philosophy and Neuroscience* (New York: Palgrave Macmillan, 2014), 138-139.

[54] Nancey Murphy, "Nonreductive Physicalism: Philosophical Issues," in *Whatever Happened to the Soul?: Scientific and Theological Portraits of Human Nature*, ed. Warren S. Brown, Nancey C. Murphy, and H. Newton Malony, Theology and the Sciences (Minneapolis, MN: Fortress Press, 1998), 131.

[55] For an overview, see Chapter 1 of Kim, *Philosophy of Mind.*

[56] Crane, *Elements of Mind,* 57.

[57] See Jaegwon Kim, *Supervenience and Mind: Selected Philosophical Essays,* Cambridge Studies in Philosophy (Cambridge: Cambridge University Press, 1993).

But how, then, do nonreductive physicalists defend their rejection of the psychoneural identity thesis? Thus far, it is not clear how the mind can (or should) be differentiated from the brain, or what it means for the brain-body to be the "seat of" (read "something different from") consciousness.

Murphy recognises that this is a difficult issue, and begins her explanation by first clarifying what nonreductive physicalists are arguing against. The "nonreductive" part of nonreductive physicalism needs clarification. After all, nonreductive physicalists are ontological reductionists, insofar as they reject immaterial minds. That is, we need not invoke anything other than basic physical components to explain consciousness, even though we recognise that consciousness is no less "real" than the electrons and protons on which it is dependent. The real threat, Murphy argues, is causal reductionism; this is "the view that the behavior of the parts of a system (ultimately, the parts studied by subatomic physics) is determinative of the behavior of all higher-level entities."[58] That is, what nonreductive physicalists reject is the idea that the mind is *nothing but* the activity of neurons, that all of our hopes, fears, and desires are causally reducible to the firings of neurons. What Murphy is getting at, then, is the problem of mental causation. She sees consciousness' causal role as something of a litmus test for the mind; if we are to avoid descending into "nothing buttery," we must find a way to preserve the mind's causal independence from bottom-up processes. If causal reductionism is true, then the mind does not actually exert any causal influence; our mental states do not lead us to laugh, make dinner choices, go to the movies, or pray. Indeed, one of the prime reasons for rejecting the identity thesis is that it would seem (for many) to undermine mental causation (in the way that we usually think of it, at least).[59]

Nonreductive physicalists reject causal reductionism, and instead affirm that "one has to take account of causal influences of the whole on the part, as well as of the part on the whole."[60] Variations on this idea include "downward causation," "whole-part constraint," "top-down causation," etc.[61] Downward causation is the affirmation that the higher-level system of

[58] Murphy, "Physicalism Without Reductionism," 554.

[59] On the other hand, dualism also faces the challenge of mental causation, as it posits an immaterial mind as a causal influence in the physical world. In other words, dualism violates the causal closure principle.

[60] Murphy, "Nonreductive Physicalism: Philosophical Issues," 130.

[61] For an examination of downward causation as related to the mind-body, see Cynthia Macdonald and Graham Macdonald, "Emergence and Downward Causation," in *Emergence and Mind*, ed. Graham Macdonald and Cynthia Macdonald (Oxford: Oxford University Press, 2010).

consciousness has effects on lower-level neural processes, even as it is dependent on those neural processes. Nonreductive physicalists thus reject causal reductionism in favour of systems-based thinking. Philosopher Robert Van Gulick explains that "the whole is not any simple function of its parts, since the whole at least partially determines what contributions are made by its parts."[62] Again, this is familiar from our discussion of Clayton's emergence thesis in Chapter 3. Nonreductive physicalists want to retain the physicalist label by affirming that the brain-body is the physical substrate on which the mind remains dependent. The idea here is that the mind can effect downward causation on the brain itself precisely because the mind is not an additional substance. That is, the mind is not so much causing change on an altogether separate entity (the brain), but acting upon its own physical substrate. Van Gulick again explains that "higher-order patterns can have a degree of independence from their underlying physical realizations and can exert what might be called downward causal influences without requiring any objectionable form of emergentism by which higher-order properties would alter the underlying laws of physics."[63] The distinction between the mind and the brain may thus seem slight, but it is a vital one. Whether or not downward causation requires the denial of the causal closure principle is up for debate.[64]

But is nonreductive physicalism a coherent position? Some would say not. Jaegwon Kim, for example, has been an outspoken critic of nonreductive physicalism. He argues that physicalists have only two options: eliminativism and reductionism. That is, "if you have already made your commitment to a version of physicalism worthy of the name, you must accept the reducibility of the psychological to the physical, or, failing that, you must consider the psychological as falling outside your physicalistically respectable ontology"; that is, you must call yourself a dualist.[65] These are strong words; why does Kim feel justified in making this claim? One of the most critical challenges to nonreductive physicalism is the problem of mental causation. As just described, nonreductive physicalists hold that the mind is able to causally influence the physical brain (and thus other events in the natural world) through downward causation, or a systems-based whole-part constraint. But the causal closure principle states that all physical events (including neural events) have physical causes. If mental properties are distinct from physical

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[62] Robert van Gulick, "Who's in Charge Here? And Who's Doing All the Work?" in *Mental Causation*, ed. John Heil and Alfred Mele (Oxford: Clarendon, 1995), 251.

[63] Ibid., 252.

[64] See David Papineau, "The Causal Closure Principle and Naturalism," in *The Oxford Handbook of Philosophy of Mind*, ed. Brian P. McLaughlin, Ansgar Beckermann, and Sven Walter (Oxford: Clarendon, 2009).

[65] Kim, "The Myth of Nonreductive Physicalism," 32.

processes, then for them to cause neural change would be to contradict the causal closure principle. And, as Kim writes, "If nonreductive physicalists accept the causal closure of the physical domain…they have no visible way of accounting for the possibility of psychophysical causation."[66] One might opt for another metaphysical position (a form of dualism, for example), but physicalism is not an option.

Murphy would counter that her position is more subtle than Kim lets on. That is, she is not suggesting that there is an immaterial mind at all. While she does argue that "consciousness and religious awareness are emergent properties, and they have top-down causal influence on the body,"[67] she simultaneously affirms that "the neural system performs all of the functions once assigned to [immaterial] mind (and soul)."[68] Nonreductive physicalists do affirm that consciousness has top-down influence on the brain, but that consciousness is an emergent property of the physical brain-body-environment system. Following Kim's line of argumentation, though, one might question whether Murphy's nonreductive physicalism is coherent. If consciousness is physical, what does it mean for it to be an "emergent property" as Murphy suggests? Even these emergent properties must only effect causal change at the level of neurons, molecules, and electrons - *and as neurons, molecules, and electrons* - if this is to be a truly physicalist position.[69] Indeed, one fascinating aspect of nonreductive physicalism is how easily it slips into dualistic metaphors on one hand, and affirmations of the "mind *as* the physical brain" on the other. Any talk of the brain as "the seat" of consciousness, or of consciousness as an "emergent property" of the brain, immediately moves us out of the realm of physicalism proper and into the realm of dualism – at least linguistically. And yet, nonreductive physicalists insist that they truly are physicalists, working only with physical components in their theories.

It is understandable that nonreductive physicalism is such a popular option for not only philosophy, but science-and-religion in particular. Nonreductive physicalism paves the way for positions like Clayton's emergentist thesis, which in turn make possible the affirmation that human minds are uniquely spiritual, and that God interacts with those minds in a very real way. Yet, as Kim argues, "currently popular middle-of-the-road positions, like…nonreductive

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[66] Ibid., 47.
[67] Murphy, "Physicalism Without Reductionism," 555.
[68] Ibid., 555.
[69] See Chapter 3 for an extensive discussion of emergence.

physicalism, are not easily tolerated by robust physicalism. To think that one can be a serious physicalist and at the same time enjoy the company of things and phenomena that are nonphysical, I believe, is an idle dream…Physicalism cannot be had on the cheap."[70] Nonreductive physicalism may be a popular option, but it may be inevitable that we need to make some difficult choices about reductionism and physicalism. It is worth questioning whether the "nonreductive" of nonreductive physicalism really adds anything meaningful, or if it rather serves to confuse the issue. At the very least, we need to be very careful and precise in explaining wherein lies the "nonreductive" aspect of this approach. And, as we will see in Part Two, it is worth asking why a more reductive physicalism has seemed so threatening to science-and-theology. Might a more robust account of the God-nature relationship alleviate some of our physicalist fears?

5.5 Conclusion

The last two chapters have offered an extended examination of issues surrounding the Hard Problem, as this is a crucial aspect of the "divine action in the mind" discussion. While I have merely been able to skim the surface of existing debates in consciousness literature, this chapter has focussed on those aspects most relevant to the question of divine action in consciousness. In particular, I have focussed on three issues: 1) the intuitive appeal of the Hard Problem, 2) deflationary perspectives on the Hard Problem, and 3) prominent physicalist approaches to the mind. I began in the last chapter by discussing the intuitive dualism that is at the heart of so much work in science-and-religion (and divine action theology in particular), and recognising the commonsense appeal of dualism. I drew upon current thinking in the philosophy of mind and the various brain sciences to argue against the Hard Problem, and suggested that our difficulty in imagining a satisfying scientific explanation for consciousness is not ontologically significant. Then, in this chapter, I presented several prominent physicalist approaches to consciousness: the psychoneural identity theory, functionalism, and nonreductive physicalism. While each of these has its own strengths and weaknesses, they share a common commitment to physicalism. This, it must be emphasised, is the key. The leading theories of mind are explicitly and wholly physicalist – or at least they purport to be.[71] They do not leave room for positing the human mind as uniquely spiritual, or as uniquely open to divine action. Of course, a dualist like Chalmers would argue that these physicalist theories are dodging the Hard Problem: "A theory that denies the

[70] Kim, *Mind in a Physical World,* 120.
[71] As noted, whether or not nonreductive physicalism is a coherent position is debatable.

phenomenon 'solves' the problem by ducking the question."[72] As we have seen, however, there are very good reasons to question our intuitive dualism, and to opt for some form of physicalist approach to the mind. We have every reason to believe that there is a naturalistic explanation for consciousness that is describable in scientific terms, even if those scientific terms are not reductionistic.

This ends the deconstructive part of this thesis. My overall argument in these last several chapters has been that standard theories of divine action are inadequate, and that this is especially true of Clayton's "divine action in the mind" thesis. I began in Chapter 2 by examining the current state of divine action theories, particularly highlighting the role that (perhaps insufficient) metaphysical presuppositions play in science-and-religion. More specifically, I suggested that contemporary divine action theories generally rely on a noninterventionist framework, which is an ironically deistic basis for divine action theories. In Chapter 3, I presented Philip Clayton's emergentist divine action thesis, which argues that the mind is likely the only natural space in which God can act in a noninterventionist fashion. Clayton uses emergence theory to support his divine action thesis, and I argued that his use of this theory is actually incompatible with, and unwarranted by, emergence as it is used in the scientific and philosophical literature. Indeed, I concluded that Clayton's proposal suggests a mild form of dualism, and is essentially a nuanced version of "God of the gaps," and thus subject to the same critiques presented in Chapter 2. After critiquing Clayton's consistent privileging of consciousness, I argued in Chapter 4 that the intuitive dualism underlying his proposal is a common – but fallacious – position from which to build a divine action theory. I argued this by examining the Hard Problem of Consciousness, which is essentially a philosophical articulation of intuitive dualism. Deflationary perspectives were thus offered, and it was suggested that logical arguments and commonsense intuition are potentially fallible when it comes to the evolved, biological realities of consciousness. While it might seem self-evident that the mind is something other than physical processes in the brain-body-environment system, the explanatory success of science (and its attendant methodological naturalism) would at least warrant a healthy scepticism toward the Hard Problem. Chapter 5 is a logical progression from Chapter 4, and I have here offered several physicalist ways of understanding the mind. In other words, the argument is not simply that we should hold out hope for a physicalist understanding of

[72] Chalmers, "Facing Up to the Problem of Consciousness," 16.

consciousness, but that there are several potentially viable approaches already being debated by scholars across the brain sciences and philosophy of mind. In sum, Part One has challenged existing assumptions in divine action theories, particularly those involving human consciousness.

So then, are we at an impasse? If consciousness is not uniquely nonphysical, is there hope for divine action in the human mind (or, for that matter, divine action in general)? Part One has been deconstructionist in emphasis, and deflationary in tone. The chapters herein have provided various reasons for rejecting a nonphysicalist understanding of the mind, or at least for questioning our theological motivations in seeking uniquely spiritual or "open" aspects of the natural world. Thus, while I have been intentionally critical of current divine action theories, intuitive dualism, the Hard Problem, and even nonreductive physicalism, this has been necessary groundwork for developing a stronger, more robust, and scientifically acceptable framework for divine action. In Part Two, I re-examine our foundational assumptions in science-and-religion and divine action theories more specifically, suggesting that physicalism is not something to be feared in Christian theology. That is, by developing (or rediscovering!) a properly robust understanding of the God-nature relationship, physicalist understandings of the mind cease to be threatening. In turn, this paves the way for an expansive approach to divine action that allows one to affirm God's action in the naturalised mind – and within the natural world more broadly. I begin this exploration in the next chapter with a discussion on naturalism.

PART TWO

THE THEOLOGICAL TURN:

DIVINE ACTION IN THE NATURALISED MIND

Chapter 6

Naturalism(s) and the Theological Turn

6.1 Introduction to Part Two

Part One of this thesis can be considered largely deflationary, insofar as it offers critiques of contemporary divine action theories and, in particular, those theories privileging the human mind as a uniquely spiritual nexus for divine action. I began in Chapter 2 with an examination of the standard divine action "scene." More specifically, I analysed the three debates shaping various approaches to the causal joint; I ultimately concluded that science-and-religion has been dominated by noninterventionist, incompatibilist commitments involving rather confused understandings of the laws of nature. I further argued that the fundamental debates themselves are questionable and need to be re-examined in light of their evident metaphysical presuppositions. In Chapter 3 I presented Philip Clayton's emergentist divine action proposal as a contemporary instantiation of the standard causal joint models critiqued in Chapter 2. Moreover, Chapter 3 highlighted the problems with locating divine action primarily, or even solely, in human consciousness. The question of the ontology of consciousness was then the focus of Chapters 4 and 5: Chapter 4 presented and critiqued the so-called Hard Problem of Consciousness, while Chapter 5 examined physicalist alternatives for understanding the mind. My overall goal in Part One was to argue two broad points. First, noninterventionist divine action theories presuppose questionable metaphysical commitments and are both scientifically flawed and theologically inadequate. Second, while theologians overwhelmingly privilege the mind as ontologically unexplainable in scientific terms or as being uniquely spiritual, we have good reason to assume that a fully naturalistic explanation for consciousness is (in principle) available. In sum, I argued that standard divine action theories in general are insufficient, and particularly that this is the case insofar as one locates divine action in the supposedly nonphysical human mind.

In Part Two, I shift from this sustained critique to a more constructive approach to divine action in the mind. While I argued in Part One that standard approaches to divine action (particularly Clayton's emergent mind proposal) are scientifically implausible and theologically insufficient, in Part Two I explore theological and metaphysical alternatives that challenge the approaches

highlighted in Part One. Specifically, I examine what I will call the "theological turn" in divine action theories (and science-and-religion more broadly), which focuses on theological models of the basic God-nature relationship – rather than using science to identify where and how divine action might occur. To that end, in this chapter I examine the question of what it means to be properly natural, and demonstrate how some scholars have critiqued the sort of metaphysical framework implicit in noninterventionist, incompatibilist divine action theories. Specifically, I argue that standard divine action theories ironically presuppose a sort of scientistic naturalism – even while more theologically robust naturalisms may be available. Then, the following three chapters highlight how the theological turn is worked out in specific theological frameworks: Chapter 7 highlights theistic naturalism(s) through the lenses of Thomism, Chapter 8 examines panentheistic naturalism, and Chapter 9 focuses on varieties of pneumatological naturalism. I argue that what these approaches share in common is a critique of standard divine action models, and a commitment to theological frameworks emphasising God's immanence and interactive presence with human minds (and other aspects of nature) as a normative feature of what it means to be fully natural. In other words, proponents of the theological turn shift the divine action conversation away from an emphasis on scientifically-identifiable causal joints, and toward theological approaches challenging the metaphysical assumptions of noninterventionist, incompatibilist divine action. While the theological turn can certainly be critiqued (as I will do in the following chapters), I suggest that it is an appropriate corrective to standard divine action theories – and one that potentially allows for a theologically robust understanding of divine action in the human mind (and elsewhere!).

At this point, it is important to explicitly restate the relationship between Parts One and Two of this thesis. Specifically, one might wonder how Part One (with its sustained focus on the science, philosophy, and theology of the mind) contributes to Part Two (which could be seen as focussing almost exclusively on theological frameworks for divine action), and vice versa. Is Part One's emphasis on standard divine action theories and the mind necessary for Part Two's argument regarding theistic naturalist approaches to divine action? And conversely, what is the relevance of Part Two's exploration of theistic naturalisms for Part One's proposal that the mind should be considered fully natural and perhaps even physical? These are valid questions, answers to which will be evident as the argument continues to unfold. Nevertheless, it is helpful here to explicitly foreground and restate this argument. This thesis' main argument is that while it is theologically and scientifically implausible to confine divine action to the human mind or, more broadly, to privilege consciousness as uniquely nonphysical or spiritual, this does not mean that Saunders is correct in his conclusion that "theology is in crisis." On the contrary, I will argue that

it is certainly possible for science-respecting theologians to affirm divine action – and that it is likely that the mind is a particularly intense locus for divine action after all – but only if one moves beyond the insufficient metaphysical assumptions implicit in what I have called the "standard" model of divine action. As noted, Part One of this thesis is largely deflationary, intended to deconstruct the noninterventionist, incompatibilist assumptions of DAP-style divine action theories, as well as to challenge the legitimacy of the Hard Problem of Consciousness. I concluded that there is reason to assume a fully natural, perhaps physical, understanding of the human mind. In Part Two, I explore constructive theological possibilities for understanding divine action, which in turn render *theologically unnecessary* approaches to divine action that privilege the mind. In other words, even though Part Two of this thesis does not address consciousness in the same intense manner as did Part One, it is essential to the thesis' single, overall argument. That is, *by arguing that theistic naturalism (broadly construed) redefines nature in theological terms such that all physicality is inherently involved with God's active presence, Part Two removes the theological need to privilege the mind as the spiritual part or aspect of a person.* In other words, Part Two could be considered a theological rebuttal of the Hard Problem of Consciousness, a rebuttal that simultaneously invites a physical understanding of the mind precisely because physicality itself does not indicate a lack of involvement with divine presence or activity. While Part One demonstrates the scientific, philosophical, and theological insufficiency of privileging the mind as uniquely spiritual or open to divine action, Part Two offers constructive theological frameworks that actually embrace the naturalisation of the mind, precisely because the physical itself is always and everywhere intimately involved with divine agency. Thus, Part Two is intended to refute and replace both the standard model of divine action and the felt theological need for a nonphysical mind. Moreover, as will be discussed in brief, broad theistic naturalism may, after all, privilege the mind as an intense locus of divine activity, though not because consciousness is in any way nonphysical. This is not to say that theistic naturalisms lack weaknesses of their own – they certainly do face challenges, as will be discussed. However, I argue that they offer an important step in the right theological direction, in a manner that is at least superior to the standard approach discussed in Part One.

In any case, before examining these explicitly theological approaches to divine action, I first turn to the subject of this chapter: naturalism and the implicit metaphysical assumptions of standard divine action models. I begin by challenging the binaries evident in standard approaches to divine action: interventionism/noninterventionism, compatibilism/incompatibilism, and (to a

lesser extent[1]) prescriptive/descriptive laws of nature. In so doing, it becomes clear that standard models of divine action presume a metaphysical framework for the God-nature relationship that may be theologically insufficient. This is made clearer in the next section, where I discuss naturalism; it will become evident that standard divine action theories implicitly adopt theologically problematic versions of naturalism, even while theologically robust naturalisms may be available. Namely, divine action theories often presume an autonomous natural world that excludes divine involvement in physical processes (except, of course, in supposedly underdetermined areas that function as metaphysical loopholes for divine agency). However, theistic varieties of naturalism are championed by those in the theological turn, and may provide a better way of understanding divine action.

6.2 Questioning the Binaries

My goal in this chapter is to highlight the underlying problems with standard approaches to divine action (as exemplified by Clayton's emergent mind proposal), mainly by examining the metaphysical foundations and naturalistic frameworks on which these theories rest. As we will see, the theological turn in science-and-religion suggests a re-examination of naturalism, which in turn problematises the standard questions framing divine action debates. As demonstrated in Chapter 2, three debates framing the divine action conversation involve intervention, compatibilism, and the laws of nature. Science-and-religion has been dominated by attempts to locate specific causal joints for divine action in underdetermined areas of the natural world. Such attempts are driven by a commitment to noninterventionism and incompatibilism: God must act in a way that does not contravene the (presumably prescriptive) laws of nature, and this divine action can occur only in places where this is "room" for God to act in addition to regular physical processes. Clayton's emergent mind proposal, I argued, exemplifies these same commitments. The problem with Clayton's approach (and others like it: quantum mechanics, chaos theory, etc.) is two-fold: it is theologically insufficient insofar as it limits divine action to human consciousness, and it is scientifically inadequate insofar as we have reason to assume and expect a fully naturalistic explanation for consciousness. In other words, if the unstated theological goal of Clayton's model is to defend the scientific plausibility of noninterventionist

[1] While challenging the first two binaries will have an effect on how one understands the laws of nature, it is not particularly helpful to focus on the laws of nature here. There is much confusion surrounding the laws of nature, and one's perspective on them is often determined or presupposed by one's commitment to noninterventionism and incompatibilism. Thus, for the sake of clarity, the discussion here will focus mainly on metaphysical assumptions undergirding noninterventionism and incompatibilism.

divine action in the emergent mind, that goal is not met. Clayton's emergent divine action proposal, then, becomes the latest such theory to invite "God of the gaps" charges and expose the problems with allowing science to dictate the possibility and parameters of divine action.

But what if standard approaches to divine action conceptualise the problem in an unhelpful way? As Lydia Jaeger suggests, it might well be the case that instead of providing a scientific account of divine action, we instead "discover that the question was badly framed."[2] As theological and scientific problems with specific DAP-style causal joint theories have become evident, many in the divine action conversation have indeed begun questioning the authority of scientific knowledge in understanding God's action in the world. These representatives of the theological turn ask questions such as: What sort of God-nature relationship is implied by noninterventionism? What does it mean to be properly natural in the first place? Does incompatibilism presume an erroneous God-nature relationship? Is science not limited in what it can say about the possibility of divine action? By using theological resources to address these questions, those in the theological turn have begun reclaiming divine action as a properly theological question – rather than one ultimately to be answered by the most current scientific knowledge. In this view, it is problematic that the success of modern science has resulted in a situation where "science no longer pertains solely to the material world…it guides our attitude toward reality in general."[3] Whereas standard causal joint theories rely on noninterventionism and incompatibilism, explicitly theological models tend to be compatibilist and to reject the interventionism/noninterventionism binary altogether. As will be discussed, these theories also tend to reject the GDA/SDA distinction: once the noninterventionist, incompatibilist paradigm is discarded, the distinction between general and special divine action is called into question. The upshot of all this is that those in the theological turn are often able to affirm a more expansive and far-reaching account of divine activity in the world – precisely because this activity is no longer dependent on current gaps in scientific knowledge, but a theological model that affirms an inherent interactive relationship between God and all the natural world. The suggestion is that "if God is the Creator of the universe, his action in it is not a problem to be figured out, but a reality to be acknowledged."[4] In short: a full account of the natural world must necessarily include a theological account of God's active presence.

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[2] Lydia Jaeger and Michael L. Peterson, "Against Physicalism-Plus-God: How Creation Accounts for Divine Action in Nature's World," *Faith and Philosophy* 29, no. 3 (2012): 305.

[3] Smedes, "Beyond Barbour," 242.

[4] Jaeger and Peterson, "Against Physicalism-Plus-God," 304.

6.2.1 *Noninterventionism*

Before getting to the question of what it means to be natural (according to both nontheistic and theistic naturalists), it is helpful first to highlight the precise assumptions implicit in standard divine action theories. First, and most importantly, the standard approach to divine action adopts noninterventionism, in explicit opposition to divine intervention in physical processes. Few in science-and-religion would suggest that the notion of God violating laws of nature is a desirable affirmation to make; and indeed, "the majority of science-and-religion scholars…abandon the notion of interventionism, or God's suspension of the laws of nature."[5] In fact, interventionism and noninterventionism themselves have become value-laden concepts in science-and-religion; "'intervention' and 'interventionism' are never used neutrally but only pejoratively. Intervention is equated with transgression, manipulation…and violation."[6] But what is perhaps equally problematic is the God-nature relationship presupposed by the interventionism/noninterventionism paradigm in the first place. Yes, incompatibilist noninterventionists reject the idea that God intervenes in the laws of nature, but their causal joint responses to interventionism assume the same autonomous, self-sufficient, law-governed world as do interventionists.[7] In this sense, incompatibilist interventionists implicitly validate the nearly spatial God-nature model that interventionism assumes: a model in which the natural world's default state is one of autonomous, prescriptive natural laws, and in which divine action is anomalous and foreign to natural processes. In other words, incompatibilist noninterventionists might reject the idea that God overrides the laws of nature – but they then look for ontologically underdetermined causal joints wherein God can lawfully enter the created order through a sort of underdetermined back door, as it were. Thus, even though noninterventionists reject the notion of God occasionally overriding laws of nature, they give tacit approval to the God-nature relationship this notion assumes – one in which the natural world's default state is law-governed and autonomous without God's active presence. It seems that the only real difference between interventionists and noninterventionists is that noninterventionists find creative (albeit scientifically implausible) ways to circumvent the laws of nature: the image of a self-contained, autonomous natural world remains intact.

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[5] Smedes, "Beyond Barbour," 244.

[6] Owen C. Thomas, "Chaos, Complexity, and God: A Review Essay," *Theology Today* 54, no. 1 (1997): 75.

[7] Strictly speaking, compatibilists are also noninterventionists, insofar as compatibilist divine action does not require intervention in the laws of nature. Thus, it is important to clarify the type of noninterventionist I am referring to here. However, compatibilists often do not self-identify as noninterventionists, as noninterventionism has come to refer to positions that seek specific causal joints for SDA.

Indeed, a commitment to noninterventionist divine action presupposes a law-governed universe that is entirely autonomous of divine agency and involvement in the first place. As Alan Padgett puts it, "the picture of God and the world which 'intervention' evokes, rhetorically, is already theologically deficient. It assumes a deistic notion of God and the world."[8] That is, by even refuting the idea of intervention and opting for noninterventionist SDA through natural processes that are underdetermined by physical laws, one still affirms an essentially deistic worldview – which, presumably, is theologically problematic. By attempting to use science to locate specific causal joints wherein God might act (e.g., in the emergent mind), one is assuming that normal, regular physical processes do not involve divine agency in the first place – the default position is one in which God does not act specially in nature (including in human minds). And again, Knight notes that noninterventionist SDA is a misleading concept; it still refers to God's action in nature that brings about a state of affairs that would not have occurred otherwise. Indeed, "the mainstream 'noninterventionist' model has not, then, abandoned interventionism in the widest sense of the term...it is still presumed that there are two possible outcomes to any given situation…In this respect, the 'noninterventionist' model has just replaced one mode of interference – that in which the laws of nature are set aside – with another."[9] Moreover, the same somewhat deistic model is at play in noninterventionism: it is assumed that the default naturalistic account of things is one that does not include divine action. Hence when Aubrey Moore wrote that "a theory of occasional intervention implies as its correlative a theory of ordinary absence," his critique could be applied equally well to *non*interventionists. As we will see, the noninterventionist view suggests a debatably insufficient account of the natural world. What is needed (and as will be explored in more detail in coming chapters) is a stronger theological account of what it means to be properly natural.

6.2.2 *Incompatibilism*

Similarly, the common commitment to incompatibilist divine action presumes an ontology that may be implausible or theologically inadequate. Incompatibilists assume that "acts of God make sense only if there are realms of physics where the behavior of bodies is not determined by physical law: then and only then is there room for objective acts of God…Attributions of an

[8] Alan G. Padgett, "God and Miracle in an Age of Science," in *The Blackwell Companion to Science and Christianity*, ed. J.B. Stump and Alan G. Padgett (Malden, MA: Wiley-Blackwell), 535.

[9] Knight, "Theistic Naturalism and 'Special' Divine Providence," 534.

event to an act of God and to deterministic explanation by physical law are taken to be mutually exclusive."[10] This is why causal joint theories attempt to identify areas of physical indeterminism: if, for example, the emergent mind is inherently underdetermined by brain processes, then there is causal room for God to act. The incompatibilist assumption is that either the laws of nature determine a certain outcome, or God acts through processes where the laws of nature seem not to determine specific outcomes – but not both. In a sense, incompatibilism results in an almost combative relationship between God and physical laws; it seems as if God must constantly "get around" physical laws. Notably, incompatibilist theories are perpetually vulnerable to advances in scientific knowledge. Areas that seem inherently underdetermined are subject to further clarity as specific sciences advance in understanding of previously mysterious phenomena.

But even if there are natural outcomes that are ontologically undetermined by the laws of physics, is incompatibilism really the best way to view God's interaction with the natural world? To be clear: by using science to determine where and how God might act, the incompatibilist is saying something about God – and specifically, God's immanence and transcendence. That is, the incompatibilist assumes that "*immanence* can only work by pushing aside a part of the *intramundane* to make room for the immanent presence of transcendence."[11] In other words, incompatibilism restricts the active presence of God to processes that science deems underdetermined by physical laws (more on immanence and transcendence later – I mention these here only by way of introduction). Indeed, it is important to remember that incompatibilism gives science the power to determine the parameters of divine action; Smedes suggests that "it seems as if the participants [in divine action conversations] have turned to science to answer a theological question…Science not only has become our sole heuristic instrument to tackle questions that relate to our world but has extended its reach to deal with theological questions."[12] In this sense, noninterventionist incompatibilists ironically adopt a sort of working scientism; they assume the priority of scientific methodology and knowledge in deciding what is theologically possible. This critique applies not only to the entire DAP project, but to Clayton's emergent divine action thesis. That is, Clayton's proposal limits divine action to the emergent mind, precisely because Clayton sees science as suggesting that the mind is ontologically underdetermined – God might act only in the mind, because the emergent mind is

[10] Porter, *By the Waters of Naturalism*, 4.
[11] Ibid., 41.
[12] Smedes, "Beyond Barbour," 245.

a high level of reality not accounted for in terms of physical law. In other words, Clayton's divine action proposal is as incompatibilist as are other standard DAP theories.

More broadly, the important point here is that incompatibilism assumes a God-world model in which God is essentially competing with physical laws to effect change in the world. As Lydia Jaeger writes, "There is one unchallenged assumption in most current models of divine action: it has to comply with the picture which science, and more specifically physics (perhaps suitably perfected in the future), offers us of the world."[13] There has been little appetite for the idea that divine action could work through ontological physical laws, instead of requiring underdetermined gaps in those laws.[14] As we will see in coming chapters, this presumed incompatibility between divine agency and the laws of nature is at odds with key tenets of Christian theology. As Smedes argues, incompatibilism "ignores the categorical distinction between God and the world (that is, God's transcendence). God is the Creator of the universe and therefore of a different order than the creaturely."[15] In other words, incompatibilism misunderstands the basic theological framework for understanding the relationship between God and nature; it assumes that a full account of the natural world is possible without reference to God's continued, active presence. Those representing the theological turn in divine action theology make just this point: we will get divine action wrong so long as we base our theories on science. Incompatibilism presupposes an affirmation that science is the final arbiter of where divine action occurs, and in so doing makes a category mistake: it presupposes that "divine action is to be treated as a scientific problem rather than as a theological or existential one…In their attempts to understand divine action, [such theorists] are looking in the wrong direction and thereby not taking theology seriously."[16]

The next three chapters will explore various theological frameworks in greater depth; my goal here is primarily to highlight incompatibilism's implicit assumptions in the first place. More broadly, both incompatibilism and noninterventionism are rejected by those supporting a theological turn in science-and-religion. Instead of asking how noninterventionist, incompatibilist divine action can occur through natural processes not determined by physical

[13] Jaeger and Peterson,"Against Physicalism-Plus-God," 304.

[14] That is, there has been little appetite for compatibilist theories in the last several decades, and particularly in the relatively new field of science-and-religion. As we will see in the next chapters, Christian theology in fact has a long and rich history of compatibilist approaches to divine action.

[15] Smedes, "Beyond Barbour," 246.

[16] Ibid.

laws, the theological turn instead explores the basic ontology of nature itself. What does it mean to be natural? Surely, they suggest, the natural world does not exist autonomously and self-sufficiently; would not a full account of the natural world necessarily include an account of God's active presence in and with natural processes? These are significant and complex questions, and are not pertinent to science-and-religion alone. Indeed, the question of what it means to be natural is a much-debated topic in the philosophy of science, and there is a vast literature exploring various perspectives on naturalism. While a full exposition of naturalism is not possible here, several of its key debates and distinctions are helpful as we move forward into explicitly theistic approaches to the question of what it means to be natural. To that end, the remainder of this chapter explores key themes and debates surrounding naturalism(s). This serves to lay the philosophical foundation for the specific theological approaches to naturalism highlighted in the following chapters.

6.3 Naturalism(s)

David Papineau has famously quipped that "nearly everybody nowadays wants to be a 'naturalist,'" but what does that mean?[17] It is true (at least in the sciences and philosophy) that it is difficult to be taken seriously if one does *not* claim to be something of a naturalist. But naturalism turns out to be a notoriously slippery concept to define, and is often taken to mean whatever a particular writer wishes it to. At a very general level, one could say that to be a naturalist is to believe that the world can be explained in fully natural terms – or, more to the point, without reference to *super*natural agents. But such a definition is hopelessly tautological: how do we define "natural," "world," or even "supernatural"? When we speak of the natural world, do we mean the physical universe, or something stronger, like "all reality"? These are the sorts of questions that plague philosophical discussions of naturalism, and I cannot do them justice here. Nevertheless, they are important to our discussion of divine action and what it means to be fully natural, and so the rest of this chapter will present some of the more pertinent key distinctions and debates.

[17] David Papineau, *Philosophical Naturalism* (Oxford: Blackwell, 1993), 3.

6.3.1 *The Problem of Terminology and Categories*

More than simply being difficult to define, how one defines naturalism can actually commit one to a certain view of reality – or at least reveal one's existing understanding of reality. In other words, in attempting to define what it means to be natural, or to think naturalistically, it is easy to define naturalness in terms of what one already believes to be true about, say, God and the supernatural. For example, in "Varieties of Naturalism," philosopher Owen Flanagan lists just some of the things one might mean by naturalism: "philosophical questions are not distinct from scientific questions," "both science and philosophy are licensed only to describe and explain the way things are," "there is no room, or need, for the invocation of immaterial agents or forces or causes in describing or accounting for things," "what there is, and all there is, is whatever physics says there is," "naturalism is a thesis that rejects both physicalism and materialism; there are natural but 'non-physical' properties," and "naturalism is, first and foremost, an ontological thesis that tells us about everything that there is."[18] The list could go on, but it is clear from these contradicting definitions that there is no single, agreed-upon definition of what naturalism is.

This being said, there do seem to be at least two core beliefs amongst naturalists. First, naturalists tend to agree that "the sciences of nature are the best (in some versions, the only) guides to what there is, what it is like, and why."[19] That is, when we are faced with competing truth claims about how the world works, explanations from the natural sciences – or, at least, utilizing scientific methodologies and thinking – are to be preferred. In other words, one can say that "naturalists take the view that we should start with our well-developed science and build our philosophy from there."[20] This position is close to methodological naturalism, or the working assumption that scientists (and likely philosophers[21]) should always assume an "in principle" natural explanation for observed phenomena. Methodological naturalism is generally assumed to

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[18] Flanagan,"Varieties of Naturalism," 431-432.

[19] Brendan Larvor, "Naturalism," in *The Wiley Blackwell Handbook of Humanism,* ed. Andrew Copson and A. C. Grayling (Oxford: Wiley-Blackwell, 2015), 37.

[20] Jack Ritchie, *Understanding Naturalism: Supervenience* (New York: Routledge, 2014), 196.

[21] There is some confusion about methodological naturalism. While it is commonly stated that methodological naturalism is a necessary commitment for all practicing sciences, it has a slightly different meaning in philosophy. That is, philosophers will often claim that "methodological naturalists think that the methods of science should be as far as possible adopted by philosophers." These differing meanings need not be laboured here, but are worth noting: in philosophical usage, methodological naturalism is taken to mean that philosophy is continuous with the natural sciences, and should proceed as if science is the best way to attain knowledge. Ritchie, *Understanding Naturalism*, 196.

be a necessary presumption of scientific practice, whether or not individual scientists are naturalists in the metaphysical sense; it is also understood by philosophers to mean that philosophical knowledge should be continuous with scientific knowledge. Related to this commitment is a second (and stronger) core belief shared by many (though not all) naturalists: that there are no supernatural realities, or if there are, such entities have no interaction with the causally closed natural world. This is metaphysical naturalism, the idea that "there is nothing supernatural, nothing 'spooky' in the world."[22] These dual commitments – to the primacy of scientific knowledge in determining reality, and to the exclusion of supernatural entities that interact with the natural world – are expressed well by philosopher Willem Drees. His metaphysical naturalism[23] can be expressed thus: "The natural world is the whole of reality that we know of and interact with; no supernatural or spiritual realm distinct from the natural world shows up *within* our natural world, not even in the mental life of humans."[24] Drees' definition is especially relevant to this project, as it explicitly mentions the question of divine action in human consciousness. For Drees and other naturalists, the whole of known reality can be described, in principle, in scientific terms, without reference to any supernatural beings. Supernatural beings might exist, but have no interaction with the space-time reality in which we exist; because there could never be any knowledge of, or interaction with, a supernatural reality outside of the physical universe, one might as well say that no supernatural entities exist at all.

Even here, however, we run up against problems of terminology: what does it mean to be natural or supernatural? Saying that naturalism is basically a rejection of supernaturalism falls into circularity, and is thus unhelpful. How do we know what a supernatural being could even be, if our definition of naturalism precludes it from the outset? Indeed, "the category of the supernatural is no clearer and no less controversial than the category of the natural."[25] Moreover, for the metaphysical naturalist the prohibition against supernatural realities is unfalsifiable: any proposed supernatural entity is assumed to have a naturalistic explanation from the outset. It is very easy for metaphysical naturalism to slip into tautologies: the natural world is all there is, and all that exists is natural. This becomes even more problematic when one remembers that the concept of the supernatural is an ever-shifting one. A great deal of phenomena have been

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[22] Larvor, "Naturalism," 37.

[23] This is actually a relatively weak form of metaphysical naturalism, as Drees acknowledges that God could exist – but not interact with the natural world. In other words, he admits a certain epistemic limitation when it comes to what exists outside of our space-time reality.

[24] Willem B. Drees, *Religion, Science and Naturalism* (Cambridge: Cambridge University Press, 1996), 12.

[25] Mario De Caro and David Macarthur, "Introduction: The Nature of Naturalism," in *Naturalism in Question,* ed. Mario De Caro and David Macarthur (Cambridge, MA: Harvard University Press, 2004), 2.

considered supernatural over the centuries, only to be given perfectly natural explanations as scientific knowledge has progressed. Various culture groups have long attributed natural phenomena to supernatural causes, and the progression of science has brought naturalistic explanations for the origin of life, evolutionary processes, and now human cognition (if not phenomenal consciousness per se). There are endless specific examples of naturalistic explanations dispensing with the need for supernatural entities. As one concrete example, take the historical case of Scottish witchcraft trials in the 17th century. While prosecution of witches was rampant in Scotland for a time, it seems that a growing awareness and appreciation for modern science was at least partially responsible for the marked decline and eventual end of witch hunts in Scotland. As one scholar writes, "the doubt concerning evidence [that witches were using supernatural powers] was being inspired by what we call the 'scientific revolution,' and especially – but not exclusively – the mechanical world view that was associated with it."[26] As scientific methodology and thinking became more widespread, people became increasingly reticent to attribute any effects of supposed witchcraft to supernatural forces.

This is just one example of a long trend of supernatural ideas being replaced by scientific explanations. In this sense, the boundaries of scientific knowledge and the natural world are always expanding. As scientific knowledge increases, the number of supposedly supernatural phenomena and entities decreases proportionately. For the metaphysical naturalist, in fact, all observable phenomena should be considered explainable in naturalistic terms from the outset. Again, however, it is worth noting that when one adopts a definition of naturalism that excludes the reality of supernatural entities, one has chosen an epistemological lens that would prohibit one from recognising supernatural realities even if they did exist. For example, if God does exist and chose to, say, part the Red Sea, a metaphysical naturalist would never be able to recognise this as the case – precisely because she is committed to finding a naturalistic explanation to fit the (albeit unusual) phenomenon. In other words, one's definition of naturalism shapes the way one sees reality. This becomes important for the divine action conversation, and particularly regarding incompatibilism: even if God as primary cause did act through ontological laws of nature as secondary causes, the metaphysical naturalist would never be able to accept anything

[26] Michael Wasser, "The Mechanical World-View and the Decline of Witch Beliefs in Scotland," in *Witchcraft and Belief in Early Modern Scotland*, ed. Julian Goodare, Lauren Martin, and Joyce Miller, Palgrave Historical Studies in Witchcraft and Magic (Basingstoke, UK: Palgrave Macmillan, 2008), 206. It is particularly fascinating to note that so-called witches may well have been experimenting with folk medicine and physical healing in a manner that would now be recognised as proto-scientific. For more on this, see Rebecca Laroche*, Medical Authority and Englishwomen's Herbal Texts, 1550–1650*, Literary and Scientific Cultures of Early Modernity (Burlington, VT: Ashgate, 2009).

but the naturalistic side of the account. Importantly, this commitment to metaphysical naturalism is not itself necessitated by science; naturalism is a metaphysical framework that a priori prioritises scientific knowledge as the best, or only, way of knowing reality. Metaphysical naturalism prioritises science in determining what is real – in this sense, it is apparent that noninterventionist, incompatibilist divine action theories are ironically presuming a God-world relationship similar to metaphysical naturalism. At least, the presumed metaphysic is similar to the relatively weaker version of metaphysical naturalism that admits the possibility of supernatural realities, but rejects the idea of supernatural realities interacting with the natural world. That is, the search for causal joints in underdetermined aspects of the natural world demonstrates a felt need to find loopholes in nature for divine action to occur – there is a felt need to make divine action as un-supernatural as possible. In any case, metaphysical naturalism (understood as basically excluding the supernatural) is not the only variety of naturalism available. As we will see, because the question of naturalism is not one to be answered by science itself, theological considerations can play a legitimate part in determining the version of naturalism one commits to. As theistic naturalists will insist, it might well be the case that the natural world always and already exists in active relationship with God; they argue that a naturalism that excludes God's active presence is not a full naturalism at all.

Before moving on to theistic naturalisms, though, more clarification is needed in regard to standard, nontheistic naturalism. Above, I briefly touched on the distinction between methodological and metaphysical naturalism. Methodological naturalism is just the affirmation that only natural causes should be invoked in explanations about the natural world. One could easily be a methodological naturalist and a religious believer – in fact, one would likely need to be a methodological naturalist in order to be a good scientist.[27] Because methodological naturalism does not imply metaphysical naturalism (and thus has little to say to questions of ontology), I will set it aside for the remainder of this thesis. Metaphysical naturalism, again, is the stronger claim that the natural world is all there is. A weaker form of metaphysical naturalism is evident in Drees' definition above, and expressed by Flanagan when he writes, "What I do think is warranted, all things considered is a form of ontological naturalism about *this* world – *for all we know and can know, what there is, and all there is, is the natural world.*"[28] This weaker definition admits a

[27] For an interesting argument suggesting that methodological naturalism is not, in fact, metaphysically neutral (and should thus be viewed cautiously by Christians), see the forthcoming article: Andrew Torrance, "Should a Christian Ever Adopt Methodological Naturalism?," *Zygon* 52, no. 3 (2017).

[28] Flanagan, "Varieties of Naturalism," 438.

certain amount of epistemic humility, acknowledging the difficulty in speaking of possible realities outside of our space-time reality.

Whatever metaphysical naturalism is, it is opposed to supernatural realities; as philosopher Barry Stroud writes, "Naturalism on any reading is opposed to supernaturalism…By 'supernaturalism' I mean the invocation of an agent or force which somehow stands outside the natural world and so whose doings cannot be understood as part of it."[29] By this definition, it is fairly clear that metaphysical naturalism excludes the possibility of God's existence – or at the very least, it excludes the possibility of divine action in the natural word.[30] But is this negative definition sufficient? As Flanagan argues, defining the natural world by what it is *not* is akin to "a political leader who, when asked about her political position, says: 'Well, I really can't say what my view is, but, rest assured, it is *not* communism.'"[31] In other words, given that supernaturalism is such a difficult concept to define (and thus problematic as a negative definition), might we do better in giving a positive definition of what it means to be natural? Metaphysical naturalists share a commitment to the natural sciences as the best guide to knowledge of reality, but what does this commitment entail? Answering this question requires a further distinction, namely between naturalism and physicalism.

6.3.2 *Naturalism versus Physicalism?*

Setting aside questions of terminology for the moment, it is fair to say that metaphysical naturalism is the doctrine that "the natural world is the whole world."[32] More specifically, metaphysical naturalism "takes nature in a definite way as identical with reality, as self-sufficient and as the whole of reality. And by nature is meant the space-time-causal system which is studied by science and in which our lives are passed."[33] Sellars' definition indicates that it is also fair to say that naturalists generally affirm scientific methodology as the best way to understand that natural world. How, then, does the natural world correspond to the physical world? Is there a

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[29] Barry Stroud, "The Charm of Naturalism," *Proceedings and Addresses of the American Philosophical Association* 70, no. 2 (1996): 44.

[30] At least, that is, it excludes the possibility of incompatibilist divine action. Compatibilists could affirm the causal closure principle (see below), as their understanding of divine action does not render divine agency as mutually exclusive with a physicalist account of events.

[31] Flanagan, "Varieties of Naturalism," 435.

[32] Jaegwon Kim, "From Naturalism to Physicalism: Supervenience Redux," *Proceedings and Addresses of the American Philosophical Association* 85, no. 2 (2011): 109.

[33] Roy Wood Sellars, "Why Naturalism and Not Materialism?," *The Philosophical Review* 36, no. 3 (1927): 217.

difference between naturalism and physicalism, the doctrine that "everything, including prima facie, nonphysical stuff, is physical"?[34] This is a complicated question and an area of intense debate. To begin with, it seems clear that physicalism is a subset of naturalism; few would argue that the physical world is not a natural world, and so physicalism would seem to entail naturalism. The reverse is not true, however: on the face of it, it seems perfectly reasonable for one to be a naturalist without also being a physicalist. As Jaegwon Kim explains, "We expect physicalists to be naturalists, while allowing naturalists to opt out of physicalism, or at least not to take a stand for it."[35] This is because physicalism is generally associated with – or even equated with – reductionism. Reductionism is almost always spoken of pejoratively in philosophy and science-and-religion, and physicalism is often taken to imply that even the most complex phenomena (music, spirituality, economics, etc.) are essentially nothing but the interaction of atoms, particles, and forces as described by physics. Insofar as one wishes to maintain a healthy distance from reductionism's "nothing buttery," one might wish to be a naturalist without being a physicalist – more expansive versions of naturalism will be addressed below.

Alternative versions of naturalism notwithstanding, there is still a clear path from naturalism to physicalism. A commitment to metaphysical naturalism entails the affirmation that "no part of our nature consists of something supra-natural, something that is in principle hidden from the scrutiny of science."[36] Thus, there is a presumption that the entire natural world is subject to explanation by scientific methodology. Once scientific methodology is acknowledged as fundamental to naturalism, the crucial link between naturalism and physicalism becomes evident: the causal closure principle, otherwise known as the "completeness of physics" premise. As described previously, the causal closure principle is the idea that "causes of events in the natural world are themselves events in the natural world."[37] Or, as David Papineau describes the link between naturalism and physicalism, "The crucial premise [for physicalism] is *the completeness of physics*, by which I mean that all physical effects are due to physical causes. And the argument is then simply that, if all physical effects are due to physical causes, then anything that has a physical effect must itself be physical."[38] In other words, if the causal closure principle is true, then all events in the natural world have physical causes.

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[34] David Papineau, "The Rise of Physicalism," in *Physicalism and Its Discontents*, ed. Carl Gillett and Barry Loewer (Cambridge: Cambridge University Press, 2008), 1.

[35] Kim, "From Naturalism to Physicalism," 109.

[36] Ibid., 112.

[37] Ibid., 113.

[38] Papineau, "The Rise of Physicalism," 7.

To summarise, then: metaphysical naturalism affirms that the space-time-causal world described by science is all that exists, and physicalism affirms that all that exists is physical. In order to get from naturalism to physicalism, one must also affirm the causal closure principle, which states that all physical events have physical causes. If all that exists is the space-time-causal world accessible to science, *and* all physical events in the space-time-causal world have physical causes, then one might say that to be a naturalist is to be a physicalist. While one might certainly challenge the causal closure principle, Papineau and others would suggest that this premise is not only a metaphysical assumption, but a reasonable conclusion drawn from centuries of success for scientific methodology: "This consensus [regarding the completeness of physics] is not just a fad, but a reflection of developments in empirical theory…there is now good reason to believe the empirical thesis that all physical effects are due to physical causes."[39] Likewise, Kim suggests that the causal closure principle is a reasonable conclusion – rather than an unquestioned premise – when derived from supervenience theory.[40] This is an important point, especially as it has become rather trendy in science-and-religion (and theology more broadly) to argue that causal closure is an unnecessary assumption.[41] That is, while rejecting the causal closure principle as an unnecessary metaphysical option might seem to open the door for divine action (i.e., if not all events have physical causes then God can act in any manner so willed), there may be good reason to affirm the causal closure principle as a reasonable conclusion – given everything we know about how the physical world works. Or, as philosopher Brendan Larvor explains, naturalism is "the *conclusion* of a historical argument that does not assume naturalism," rather than an unmoored (and ultimately disposable) presupposition.[42]

At this point, it is helpful to distinguish physicalism from reductionism. Many of the fears around physicalism stem from the assumption that to be a physicalist is to affirm a sort of "small-ism" in which literally everything is reducible to fundamental physics. As Kim writes, "reductionism of all sorts has been out of favor for many years," and so equating physicalism

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[39] Ibid., 32.

[40] See Kim, "From Naturalism to Physicalism," 133.

[41] See, for example, Plantinga, "What is Intervention?"

[42] Larvor, "Naturalism," 50. Larvor also makes a fascinating argument that history actually poses a serious challenge to metaphysical naturalism (even while many use the history of science as support for the position). Larvor suggests that "the best argument for the superiority of the scientific worldview over its rivals is the history of its rise to dominance – but this is a historical argument," rather than a scientific one. Thus, he argues (also on page 50 of the cited work): "It therefore presents a counter-example to the claim that natural science is the only source of knowledge and explanations worthy of the name."

with reductionism is bound to problematise physicalism from the outset.[43] However, many physicalists reject reductionism, affirming the existence of various levels of reality, while still recognising only the basic fundamental particles and forces acknowledged by physicists. At the very least, physicalists generally reject explanatory reductionism, affirming with Drees that "the description and explanation of phenomena may require concepts which do not belong to the vocabulary of fundamental physics, especially if such phenomena involve complex arrangements of constituent particles or extensive interactions with a specific environment."[44] That is, one can affirm that the only basic "stuff" in the universe is the stuff studied by physicists, while still affirming that complex phenomena are properly studied by specific fields with their own internal vocabularies and methodologies. It might well be true that a full explanation of money or art requires fields of study other than particle physics – even while acknowledging that money and art are still dependent on physical substrates for their existence. This being said, there is debate about whether or not admitting this explanatory pluralism is truly a nonreductionistic move – recognising the need for nonphysical language is not necessarily the same thing as an ontological pluralism, and may simply reflect humans' epistemic limitations. In other words, it might just be very difficult to explain money and art in physicalist language, and not impossible in principle.

Nevertheless, it is possible to affirm physicalism without affirming reductionism; indeed, "physicalism today clothes itself in various subtler shades."[45] Nonreductive physicalists, as discussed, deny that all things reduce to physics, yet without admitting any basic stuff besides the fundamental particles and forces recognised by physics (weak emergentists would fall into this category as well). Nonreductive physicalists claim that higher-order realities (such as the mind) supervene on physical substrates, such that "supervenient properties are in some sense dependent on, or determined by, their subvenient, base properties and yet, it is hoped, irreducible to them."[46] Supervenience theories are notoriously complex and hotly debated, and are tangential to this chapter's argument. Therefore, I here note only that nonreductive physicalism's reliance on supervenience faces challenges: insofar as supervenient properties are dependent on physical substrates such that physical substrates determine those properties, those properties veer into reductionism. On the other hand, insofar as supervenient properties are irreducible to physical substrates, those properties veer into dualism. Kim explains that "if a

[43] Kim, "The Myth of Nonreductive Physicalism," 31.
[44] Drees, *Religion, Science, and Naturalism,* 12.
[45] Papineau, "The Rise of Physicalism," 4.
[46] Kim, "The Myth of Nonreductive Physicalism," 39.

relation is weak enough to be nonreductive, it tends to be too weak to serve as a dependence relation; conversely, when a relation is strong enough to give us dependence, it tends to be too strong – strong enough to imply reducibility."[47] Kim concludes that nonreductive physicalism is an untenable position; the supervenience theory on which it is based inevitably falls into reductionism or dualism. Again, the focus of this chapter is theological engagement with metaphysical naturalism as it pertains to divine action; supervenience is not directly relevant to the God-nature relationship of importance here. Nevertheless, it is interesting to note how the mind-body debates about physicalism and dualism mirror, or are analogous to, debates about physicalism and theological dualism – that is, the relationship between God and the natural world.

Setting aside sub-debates within physicalism, we can now return to the question of what it means to be natural. As will be discussed shortly, there are versions of naturalism that are much broader than the reductive physicalism often associated with naturalism. But supposing for the moment that naturalism can be equated with physicalism, what then? Is the confusion about what it means to be natural made any clearer when one asks what it means to be physical? Just as the bounds of naturalism have been expanding for centuries, so has the understanding of what might be deemed truly physical. For example, 300 years ago the important concepts at the heart of quantum theory would likely not have seemed physical. If one were to describe, say, the counter-intuitive realities described by the Heisenberg Uncertainty Principle, or the "spooky action at a distance" of quantum nonlocality (as famously described by Einstein), it is unlikely that scientifically-minded scholars of the day would have had the conceptual resources to incorporate such ideas into existing naturalistic frameworks.[48] As the theories, tools, and accepted body of scientific knowledge have continued to progress over the last centuries, however, the scientific community has developed a theoretical framework that is more than capable of incorporating the findings of quantum theory. Far from being considered spooky or even supernatural, scientists now consider quantum theory to be vital for a full physicalist account of the universe. This is similar to the way scientific understandings of brain function and consciousness have progressed over time. As demonstrated in previous chapters, it once seemed obvious (and admittedly, still does so to many) that the mind is inherently spiritual and decidedly nonphysical.

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[47] Ibid., 40.

[48] My use of "scientific" here is anachronistic. Such conversations would have been had under the auspices of natural philosophy, but my point remains the same. For more on quantum entanglement and nonlocality, see John G. Cramer, *The Quantum Handshake: Entanglement, Nonlocality and Transactions* (New York: Springer International Publishing, 2015).

Now, however, the consensus view is changing, such that it is (at the very least) acceptable to assume an "in principle" physicalist explanation for human mentality. The point here is that what is considered physical – what is considered to be within the purview of scientific methodology – is constantly shifting. Papineau expresses this problem in the following way:

> How exactly is *physics* to be understood…? An awkward dilemma may seem to face anyone trying to defend…the completeness of physics. If we take *physics* to mean the subject matter currently studied in departments of physics, discussed in physics journals, and so on, then it seems pretty obvious that physics is not complete. The track record of attempts to list *all* the fundamental forces and particles responsible for physical effects is not good, and it seems highly likely that future physics will identify new categories of physical cause. On the other hand, if we mean, by *physics*, the subject matter of such future scientific theories, then we seem to be in no position to assess its completeness, because we don't yet know what it is.[49]

While Papineau's observation is noteworthy in regards to the debate about the causal closure principle, it is particularly interesting here as it highlights how seemingly impossible it is to determine, at the outset, what should be deemed properly physical. Things that seem nonphysical have a way of being proven otherwise. Here, I should address the obvious theological problem with this observation: If the boundaries around what is physical are continually expanding, does this have metaphysical implications for our discussion of divine action and, more importantly, the God-nature relationship? While it may be the case that all instances of divine action do indeed have physical explanations, compatibilists do not find this theologically problematic (as will be demonstrated in the next three chapters). The larger worry about physicalism, it seems, is that its ever-expanding purview might seem to threaten the idea of an immaterial, uncreated God. It is not my intention to suggest this; a theistic metaphysic requires there to be an ontological distinction between God and the created universe. Thus, while some versions of naturalism might be equated with physicalism, a theist will presumably not accept an account of physicalism that claims as its rightful territory "all that is."

Here we come to an important distinction, as we move into an account of broad naturalisms. Namely, naturalism and physicalism can be variously affirmed or rejected, depending on the subject in question. For example, one argument of this thesis is that to be fully natural is to be inherently involved in active participation and interaction with God (more on this in the next three chapters). At the same time, theists must necessarily reject the claim that naturalism is equal

[49] Papineau, "The Rise of Physicalism," 12.

to the naturalistic subcategory of physicalism, at least so long as physicalism is taken to indicate a reality comprised only of atoms, particles, and the fundamental forces of physics.[50] Importantly, however, one can accept a broad naturalism, reject physicalism insofar as God is concerned, and simultaneously accept physicalism when discussing all things not God. For example, this thesis accepts physicalist approaches to the mind-brain, while still arguing that to be fully natural, the physical world must be fundamentally involved with God. In other words, the overall argument of this thesis has been that the mind is not uniquely spiritual or necessarily nonphysical, but that this does not preclude God's action in the mind-brain (or any other aspect of the natural world) – *if*, that is, one has a theologically expansive understanding of what it means to be natural. Here, it is worth examining such nonphysicalist approaches to naturalism. [51]

6.4 Nonphysicalist Naturalisms

As discussed above, metaphysical naturalism is committed to the rejection of supernatural entities – or, at the very least, a rejection of supernatural interaction with the world (weak metaphysical naturalism might admit the possibility of supernatural realities outside our space-time system). Also as discussed, many naturalists are also physicalists – there is a fairly straightforward route from naturalism to physicalism, given naturalism's prioritisation of scientific methodology for obtaining knowledge of what is real. However, not all naturalists are physicalists, and there are various reasons for this. First (and extremely relevant to this thesis' focus on consciousness), many naturalists reject physicalism because of their views on the mind. That is, there are many card-carrying naturalists (i.e., individuals who reject supernatural explanations for observed phenomena) who insist that consciousness is an immaterial, nonphysical phenomenon. These naturalists are those discussed in Chapters 4 and 5, who argue that once all the physical facts are known about the brain and cognitive processes, something extra is still needed to explain the subjective experience of phenomenal consciousness. They deny that the mind is supernatural (hence, they really are naturalists), but they assert that the mind is a nonphysical, extra piece of ontological "furniture" in the natural world. There are various ways to defend this. For example, Frank Jackson is an epiphenomenalist: he argues that the mind overlays physical processes in the brain, but does not interact with those physical

[50] Although, as I have noted, it is very difficult to predetermine the limits of physicalism. One must make a *theological* decision to exclude God from physicalist explanations.

[51] I use the term "nonphysicalist" not to suggest that this position rejects physicalist explanations, but to indicate that the position is not confined by physicalist strictures as generally understood. That is, I use "nonphysicalist" not as a rejection of physicalist explanations, but in opposition to physicalism as a metaphysical position that reduces all reality to physical processes.

processes.[52] David Chalmers, on the other hand, is something of a panpsychist: consciousness exists everywhere in the universe, and as philosopher Jack Ritchie explains, "everything is a little bit conscious."[53] Subjective experience is somehow real (both Jackson and Chalmers have sophisticated models to defend this claim), but it does not influence the physical world. Thus, these are naturalistic positions that also do not violate the causal closure of the physical.[54] For the nonphysicalist naturalist, not all things are physical – but on the other hand, divine action is certainly disallowed from the ontological picture. One exception to this is Philip Clayton. While he would consider himself something of a nonphysicalist naturalist (and indeed, strong emergentists are often among the chief proponents of nonphysicalist naturalisms), Clayton still argues that the mind is uniquely open to divine action – something most naturalists would reject. And indeed, my argument throughout this thesis has been that Clayton's privileging of the mind contradicts the scientific methodology and naturalistic framework he purports to affirm.

In any case, however, nonphysicalist naturalisms relying on an immaterial mind are rather irrelevant for this chapter. After all, I have argued against nonphysicalist approaches to the mind; such approaches privilege consciousness as being uniquely nonphysical, in a way that is perhaps unwarranted and unnecessary. As Ritchie notes, naturalists who insist on a nonphysical mind tend to agree "with the physicalist about everything except the place of consciousness in the world."[55] For all the reasons discussed in previous chapters, it is worth questioning whether the mind should be so distinguished, especially given the rapid progress in the cognitive sciences and deflationary perspectives from the philosophy of mind. Moreover, it is an odd and problematic feature of metaphysics that debates about metaphysical naturalism and physicalism often get tied up with debates about the mind-brain. As Ritchie argues, "The grand old labels materialism and dualism and the newer shinier one physicalism appear to designate very general metaphysical views. They purport to tell us how everything is. Those who are engaged in disputes in the philosophy of mind have a much narrower focus…It would be better for everyone if this were

[52] See Jackson, "Epiphenomenal Qualia."

[53] Ritchie, *Understanding Naturalism*, 139.

[54] However, the causal closure principle is not a requirement of naturalism. A dualist could also be a naturalist, simply claiming that the mind is nonphysical but still a natural part of the universe that interacts with physical processes. The dualist would deny the causal closure principle, but justify this by pointing out that causal closure is a metaphysical assumption – not a scientific conclusion. Indeed, this is exactly the tack taken by Swinburne and Plantinga, respectively (as outlined in previous chapters). This being said, all naturalists would presumably need to have their own versions of the causal closure principle: even if they do not affirm that everything is *physical*, they would need to have some boundary around what it is natural. Otherwise, naturalism would become a virtually meaningless statement that to be natural is to be real.

[55] Ritchie, *Understanding Naturalism*, 148.

made clear."[56] Indeed – one's approach to the ontology of consciousness often becomes, I suggest, a misleading litmus test for one's overall approach to the natural world. In any case, versions of naturalism that rely on an immaterial mind are unpersuasive in this context, as I have already argued that the mind is potentially explainable in physicalist terms.

More interesting, perhaps, are naturalisms that question the ability of physics and other natural sciences to authoritatively determine the parameters of the physical world (and, by extrapolation, the parameters of the entire natural world). For example, Nancy Cartwright argues against the universality of physical laws, suggesting instead that "nature is governed in different domains by different systems of laws not necessarily related to each other in any systematic way."[57] Thus, Cartwright argues against the physicalist assumption that the entire natural world is intelligible via physics – or at least physics as we now understand it. It might well be the case that many natural phenomena just are not governed by the sorts of regularities and laws described by modern physics, but instead operate under different sorts of regularities than those recognised by physics. Cartwright's approach to naturalism (she calls herself an empiricist, but her approach to metaphysics is basically naturalistic) therefore rests upon a sort of epistemological humility. Recognising that the laws of fundamental physics do not seem adequate for the task of explaining all the complex phenomena we observe in reality, Cartwright concludes that to presume the universality of physical laws is to make a sort of fundamentalist faith claim. Instead, she suggests "metaphysical nomological pluralism," or "the doctrine that nature is governed in different domains by different systems of laws not necessarily related to one another in any systematic or uniform way; by a patchwork of laws."[58] While it is not clear that Cartwright's approach can be used to make sense of divine action – nomological pluralism is essentially naturalistic – her model demonstrates that there is more than one way to be a naturalist and to reject physicalism. At the very least, Cartwright makes the important point that to assume the universality of physical laws is to overstep what is warranted by scientific practice. As Ritchie (himself a nonphysicalist naturalist) explains, "Physics, and science in general, is a messy business. There is no general metaphysical picture that our best science supports…the best attitude a naturalist can take may be one of metaphysical agnosticism."[59] While this conclusion

[56] Ibid., 156.
[57] Cartwright, *The Dappled World*, 31.
[58] Ibid.
[59] Ritchie, *Understanding Naturalism*, 159.

does not necessarily get us any closer to a theory of divine action, it does appropriately challenge erroneous assumptions about what naturalism is and is not.

Epistemological humility aside, there are more positive nonphysicalist approaches to naturalism. As mentioned, emergentists often fall into this category. While strong emergentists assert that emergence is an inherent feature of the natural world, they also reject reductive physicalism. Having discussed emergence in detail in Chapter 4, I will not go over the details again here. However, it should be noted that emergentists often do affirm nonphysical realities in the natural world – and these are not limited to the mind. Indeed, strong emergence recognises many levels of ontological reality that are not describable by physics. Rather, emergent levels are more than the physical substrates on which they yet depend; higher emergent levels are ontologically distinct from their physical substrates, while still continuous with physical processes. As Clayton writes:

> Reality is ultimately composed of one basic kind of 'stuff.' Yet the concepts of physics are not sufficient to explain all the forms that this stuff takes…The one 'stuff' apparently takes forms for which the explanations of physics, and thus the ontology of physics (or 'physicalism' for short), are not adequate. We should not assume that the entities postulated by physics complete the inventory of what exists. Hence emergentists should be monists but do not need to be physicalists in the sense that physics dictates their ontology.[60]

It should also be noted that not all emergentists reject physicalism. For example, Terence Deacon provides an emergentist framework that is still basically physicalist. He does argue that genuinely new things emerge in nature and that "a critical shortcoming of methodological smallism, despite its obvious successes, is that it implicitly focuses attention away from the contributions of interaction complexity."[61] Nevertheless, Deacon's emergentist framework remains physicalist – not in the sense of reducing everything to fundamental physics, but in the sense of affirming that all emergent phenomena are complex products of "ratcheted up" physical processes at simpler levels. Still, emergentism as a whole might be welcomed by those wishing to embrace naturalism without the more stringent commitment to physicalism.

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[60] Philip Clayton, "Conceptual Foundations of Emergence Theory," in *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion*, ed. Philip Clayton and Paul Davies (Oxford: Oxford University Press, 2006), 2.

[61] Terence Deacon, *Incomplete Nature: How Mind Emerged from Matter* (New York: W. W. Norton, 2012), 154.

Perhaps the most comprehensive and theism-friendly philosophical approach to nonphysicalist naturalism comes from Fiona Ellis. In her book *God, Value, and Nature*, Ellis develops a metaphysical framework that not only challenges standard naturalistic assumptions, but offers a rationale for incorporating theism (and even Christianity) into a model that could still be considered naturalism. Because of this, Ellis is a helpful methodological example of how one might make the philosophical move from reductive physicalism to a more expansive naturalism. While the theistic naturalisms explored in coming chapters do not directly presuppose Ellis' work, it is worth examining her expansive naturalism here, insofar as this chapter is devoted to philosophical understandings of naturalism.

Ellis makes the claim that "the relation between the natural and the supernatural has been distorted [in scientific naturalism]," and rejects the view in which "the supernatural is said to denote a dimension of reality which involves God and His action, and the natural includes man as he exists in this world 'sustained by the forces of nature.'"[62] In short, Ellis is suggesting exactly the sort of theistic naturalism supported by those in science-and-religion who reject the standard model of divine action. More specifically, Ellis rejects "scientific naturalism," in which "the limits of nature are to be circumscribed by the limits of scientific investigation," and considers a series of increasingly expansive versions of naturalism.[63] In so doing, Ellis focuses on the question of values; namely, she accepts the very real existence of values, and evaluates various naturalisms by how well they allow for a robust understanding of values.[64] Her suggestion is that by requiring naturalistic frameworks to conform to observed, irreducible phenomena (e.g., values), we can affirm an expansive form of naturalism that is compatible both with scientific practice and theological affirmations. Ellis' position regarding her proposed "enchantment of nature" can be summarised thus:

> This is no recommendation to retreat into the realm of pre-scientific superstition. On the contrary, the envisaged enchantment of nature is intended to be compatible with the findings of modern science, and acceptable to those who take seriously the scientific worldview…[I]t is a matter of allowing that there are things in the world – values – which are compatible with the findings of science, and which are irreducible to the things it can explain. The further claim is that there is a perfectly satisfactory ontology and

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[62] Fiona Ellis, *God, Value, and Nature* (Oxford: Oxford University Press, 2014), 90.

[63] Ibid., 10.

[64] One possible critique of Ellis' framework is that she seems to assume that values are an irreducible brute fact about reality. She writes that "values are part of the natural world, and…they are different from other things with which we are acquainted…they are irreducible to properties which form the focus of scientific interest." This understanding of values is arguable, particularly given theories from evolutionary biology purporting to account for perceived values as a product of natural selection. Ibid., 58.

> epistemology for these things provided that we resist the lure of scientism, and that we succumb to this restriction only at the cost of courting a conception of nature for which there is no good philosophical or scientific justification.[65]

This needs some unpacking: How exactly does Ellis use value to move from reductive scientific naturalism to a version of naturalism that allows for God? As noted, Ellis begins by rejecting scientific naturalism, claiming that it does not fully account for phenomena like values. She then describes expansive naturalisms, which recognise value as a natural part of the world – but which are irreducible to physical mechanisms describable by science. Ellis then makes an intriguing move, taking the expansive naturalist's ability to affirm value as an irreducible reality and using that as a template for allowing other nonphysical realities. Just as an expansive naturalist can accept value as an ontologically distinct natural phenomenon, so does a theistic naturalist accept God as a nonphysical reality; "[the theistic naturalist's] account of our relation to God proceeds via our relation to value." [66] Thus, the uniqueness of Ellis' approach lies in her emphasis on method, rather than content. That is, just as expansive naturalists accept nonphysical realities like value as part of the natural world, so are theistic naturalists warranted in accepting God as part of a fully naturalistic account (and, indeed, Ellis suggests that this acceptance of God occurs via a relation of value). If one is able to make the conceptual move from scientific naturalism to expansive naturalism, thus admitting the possibility of nonphysical naturalism, then one has already grasped the same sort of conceptual trajectory required to get to theistic naturalism.

Moreover, as Ellis explains, "we ourselves, qua natural beings, are already open to God. The supernatural – which here embraces both God and His communicative action - is not a spooky superstructure, extrinsic or added on to a nature which is complete in itself. Rather, it is a quality or dimension which enriches or perfects the natural world. This grants us the right to allow that man can be inwardly transformed by God."[67] This is an important quote, as Ellis here incorporates divine action (and even divine action in the mind) into a naturalistic framework. Yes, of course more restrictive forms of naturalism would reject the idea of a theistic, or even Christian, naturalism. But then again, many of those same naturalists recognise irreducible, nonphysical phenomena like value as a part of reality. As one reviewer of Ellis' book *God, Value, and Nature* explains, "In general, then, defenders of the more restrictive views [of naturalism] see defenders of the more expansive views as needlessly positing spooky entities, whereas defenders

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[65] Ibid., 89.
[66] Ibid., 136.
[67] Ibid., 91.

of more expansive views see defenders of the more restrictive views as committed to ontologies that cannot adequately account for moral values."[68] Ellis' main point, it seems, is that once one has allowed for nonphysical realities *at all*, there is a rational, legitimate (though not necessary) progression to theistic naturalism. Just as atheistic naturalists can allow for ontologically real value because it makes sense of the phenomenon, and theistic naturalists allow for God for the same reason, so does the Christian naturalist suggest that a Christian framework "makes for a more satisfactory conception of God."[69] This is not to say that Ellis has proved Christianity; indeed, she would not claim this as her goal. Rather, her more modest point is that "there may yet be room for allowing that belief in God is intellectually respectable, and that there is sense to be made of the idea that the natural world is *divinely* enchanted."[70] Still, there are potential problems with her approach. For example, some might argue that value is wholly explainable in scientific terms, perhaps as suggested by evolutionary biology.[71] Additionally, Ellis' argument can be vague at times – it is unclear, for example, how God might actually cause change in the natural world. As with most versions of theistic naturalism (discussed in the following three chapters), the details of divine interaction with the world remain fuzzy, at best. Nevertheless, Ellis' model is the sort of expansive naturalism on which representatives of the theological turn in divine action depend. Ellis' approach to expansive naturalism is not necessary for the theistic naturalisms explored in the next three chapters, but it is *a* helpful approach demonstrating the conceptual pathway from reductive physicalism to expansive naturalisms that might include an account of divine action. Ellis thus offers an example of the sort of philosophical moves theologians might take in developing explicitly theological models of divine action.

6.5 Conclusion

I began this chapter by examining the sort of God-nature metaphysical model implied by standard divine action theories. It is evident that noninterventionist, incompatibilist models presume (ironically) a sort of working naturalism that precludes divine interaction with nature as part of what it means to be natural. In other words, standard models of divine action privilege scientific method and knowledge in determining where and how divine action might occur. This approach presumes an understanding of the natural world that does not include a necessary

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[68] Erik J. Wielenberg, "Fiona Ellis, God, Value, and Nature," *International Journal for Philosophy of Religion* 78, no. 1 (2015): 134.

[69] Ellis, *God, Value, and Nature*, 179.

[70] Ibid., 84.

[71] For example, see Robert Wesson and Patricia A. Williams, eds., *Evolution and Human Values*, Value Inquiry Book Series (Amsterdam: Rodopi, 1995).

relationship between nature and God; divine action is treated as being anomalous, and as something to "fit in" to scientific knowledge of law-governed physical processes.

However, this presumption that divine agency is somehow extraneous to the existence and ongoing processes of nature is highly questionable. As demonstrated in this chapter, there are many forms of naturalism, many different understandings of what it means to be natural in the first place. My intention in this chapter has not been to argue for one particular version of naturalism – expansive, physicalist, or otherwise – but to highlight how complex and nuanced debates about naturalism can be. Far from assuming that the natural world necessarily exists and functions outside of dynamic relationship with a supernatural God, divine action theorists should recognise that there are far more robust options in naturalism than those that privilege reductionist, physicalist, or scientistic commitments.

My purpose in this chapter has been to show how standard divine action theories assume a very specific God-world model that is far from the only metaphysical option in discussions of naturalism. Once we have "loosened up" the metaphysical foundations of divine action theology, we can then begin to look at specific, contextualised theological approaches to divine action. The next three chapters, then, will explore the various ways that those in the theological turn have worked with versions of theistic naturalism to develop theologically rich and nuanced accounts of divine action. What is evident, I suggest, is that the Christian theological tradition has far more robust resources for understanding divine action than is evidenced by standard noninterventionist, incompatibilist models.

Chapter 7

Theistic Naturalism Part One: Thomistic Divine Action

7.1 Introduction

In the previous chapter, I brought the standard noninterventionist, incompatibilist model of divine action into conversation with naturalism. I argued that causal joint theories ironically presuppose a version of scientistic naturalism in which divine action is rendered anomalous and extraneous to the normal state of affairs in the natural world. In response to this theological capitulation to scientistic naturalism, I then discussed the differences between various versions of naturalism. Naturalism, I argued, is not a necessarily reductionist, physicalist, or monolithic metaphysical framework, but includes nuanced and expansive perspectives on what it means to be natural. Finally, I highlighted the expansive naturalism of Fiona Ellis, as it provides the sort of philosophical methodology that is helpful in moving from nontheistic naturalism to one that of necessity includes an account of divine action. Not only might naturalism accommodate an account of divine action, but such a claim need not entail a rejection of scientific knowledge or methodology.

In this and the next two chapters, I explore versions of theistic naturalism within the context of the theological turn in divine action theology. While Part One of this thesis was largely deflationary in its critique of divine action theories privileging the mind as uniquely spiritual, and Chapter 6 examined the philosophical possibilities surrounding naturalism, Chapters 7-9 constructively explore explicitly theistic approaches to naturalism and divine action. My argument in these chapters is that while the noninterventionist, incompatibilist approach to divine action – the "standard model" – is scientifically implausible and theologically insufficient, theistic naturalisms may offer a metaphysical framework that allow one to affirm both scientific knowledge and divine action in the mind (and elsewhere). My overall goal in these three chapters is not to argue for a specific version of theistic naturalism, but to highlight commonalities in the various approaches, and identify potential weaknesses in each. In so doing, I argue that there is a common core to these versions of theistic naturalism, and that this common core offers a

theologically robust framework for understanding divine action. In this chapter, I explore theistic naturalism through a Thomistic lens. Chapter 8 then examines Christopher Knight's panentheistic naturalism, and Chapter 9 highlights pneumatological naturalism. In these three chapters, I will also reintroduce the human mind into this discussion on divine action, when appropriate, and even suggest that the mind may be an enhanced locus of divine action after all – though for very different reasons than those suggested by standard causal joint theorists. My overall goal in these last chapters is not to present an entirely new divine action theology, but to tentatively suggest a basic form of theistic naturalism as an approach to divine action that not only escapes the critiques examined in Part One, but is also compatible with a range of specific theological traditions. While it is likely that the most significant contribution of this thesis lies in its critique of divine action theories privileging the mind as uniquely spiritual and nonphysical, it is intended that these constructive chapters will provide a tentative framework for divine action that embraces scientific knowledge, naturalism, *and* a robust theology of divine action in the mind.

7.2 The Theological Turn and Theistic Naturalism

What is theistic naturalism, and how does it relate to the theological turn in divine action theories? As discussed in previous chapters, the theological turn in divine action refers to those approaches that reject the standard, noninterventionist, incompatibilist divine action models exemplified by the Divine Action Project, and more particularly the metaphysical assumptions presupposed therein. Representatives of the theological turn argue that noninterventionist, incompatibilist causal joint theories presuppose a model of the God-world relationship that is insufficient, insofar as such theories locate divine action in scientifically-identifiable points of underdeterminism. In short, the theological turn rejects divine action theories that subject theological affirmations of divine action to current scientific knowledge. Contemporary science, it is argued, should not be the final arbiter of what is and what can be, for science is a bounded and highly provisional endeavour that is limited in what it can say about reality. The theological turn thus emphasises the importance of theological and metaphysical frameworks in divine action theories, rather than looking to science to identify ontologically underdetermined gaps in which God might act.

Theistic naturalism is one approach used by those in the theological turn as an alternative to the standard model of divine action critiqued in Part One, and is the approach I here promote as a promising direction in divine action theories. As will be argued, theistic naturalism not only insists on a God-world model in which nature is inherently involved with God's active presence, but it also offers a way of thinking theologically about divine action that gets around some of the key weaknesses of the standard model critiqued in Part One. Just as naturalism more broadly is notoriously difficult to define, so is theistic naturalism an ambiguous term. It seems to have been coined by Willem Drees, who has used it to describe "a scheme of primary and secondary causes, with the transcendent realm giving effectiveness and reality to the laws of nature and the material world governed by them."[1] This definition is helpful insofar as it highlights theistic naturalism's commitment to compatibilism, and to the inherent involvement of all nature with God. Another definition has been used by Arthur Peacocke, who writes that "the processes revealed by the sciences are in themselves God acting as Creator, and God is not to be found as some kind of additional influence or factor added on to the processes of the world God is creating. This perspective can properly be called 'theistic naturalism.'"[2] Peacocke's definition is helpful, as it indirectly emphasises divine immanence in nature (including a compatibilist account of divine action) as a crucial part of what makes the natural world what it is. That is, Peacocke seems to envision the natural world itself as always existing in interactive relationship with God; there is no self-sufficient natural world apart from God's active presence in the first place.[3] As Nancey Murphy explains Peacocke's theistic naturalism, "It is opposed to accounts of God as apart from the world altogether, as in Deism, or as occasionally intervening, as in many forms of supernaturalism. His emphases are on a metaphysics that recognizes only God and the natural world and on a theology in which God is immanent and active in the whole of creation."[4] Nevertheless, Peacocke's definition of theistic naturalism above might fail to be congruent with

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[1] Willem B. Drees, "Thick Naturalism: Comments on Zygon 2000," *Zygon* 35 (2000): 851.

[2] Arthur R. Peacocke, *Paths from Science Toward God: The End of All Our Exploring* (Oxford: OneWorld, 2001), 138.

[3] Peacocke develops his theistic naturalism and divine action theory within a panentheistic framework, writing: "The ontological "interface' at which God must be deemed to be influencing the world is, on this model, that which occurs between God and the totality of the world…, and this may be conceived of panentheistically as within God's own self. What passes across this 'interface,' I have also suggested, may perhaps be conceived of as something like a flow of information—a pattern-forming influence." Peacocke views his model as being fully naturalistic, then, and not requiring God to "step in" from the outside in order to act. Still, he seems to still retain the classic idea of "special" divine action, in which it is conceivable that nature's "default" setting does not include divine activity. In this sense, then, Peacocke should be differentiated from Knight, who is discussed below. Arthur R. Peacocke, *The Palace of Glory: God's World and Science* (Adelaide: ATF Press, 2005), 115.

[4] Nancey Murphy, "Arthur Peacocke's Naturalistic Christian Faith for the Twenty-First Century: A Brief Introduction," *Zygon* 43, no. 1 (2008): 70.

his actual divine action model, which is based on whole-part constraint. As Peacocke explains divine action in relation to his theistic naturalism:

> Mediated by such whole–part influences on the world-as-a-whole…God could bring about the occurrence of particular events and patterns of events – those which express God's intentions. These would then be the result of 'special, divine action,' as distinct from the divine holding in existence of all-that-is, and so would not otherwise have happened had God not so intended…such a unitive, holistic effect of God on the world could occur without abrogating any of the laws (regularities) which apply to the levels of the world's constituents. This influence would be distinguished from God's universal creative action in that particular intentions of God for particular patterns of events to occur are thereby effected; *inter alia*, patterns could be intended by God in response to human actions or prayers.[5]

In other words, Peacocke affirms a distinction between general providence and special divine action which actually does require a causal joint; Peacocke provides this causal joint by positing whole-part constraint, and divine influence that "may perhaps be conceived of as something like a flow of information – a pattern-forming influence."[6] Because of Peacocke's perhaps inconsistent understanding of theistic naturalism, Knight refers to Peacocke's approach as "weak theistic naturalism."[7] In any case, theistic naturalism has not been widely developed in science-and-religion; Knight is likely the scholar who has worked most consistently with the term itself. Knight's work will be discussed in detail in the next chapter, but here it is helpful to note that he sees his own theistic naturalism as denying "any mode of divine causality other than that in the general providence inherent in the design of the universe."[8] This is a stronger version of theistic naturalism than that envisioned by Peacocke, and a bit more restrictive (definitionally speaking) than the working definition I will adopt here. Though my understanding of theistic naturalism would include Knight's model, I define it sufficiently broadly so as to encompass all three theological models surveyed in the next several chapters.

Broad theistic naturalism, as I use it here, is the theological affirmation that a full account of nature would necessarily include an account of God's active, immanent involvement in nature: one might say that for nature to be fully natural, it must be involved with, or participate in, God.

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[5] Arthur R. Peacocke, "Emergence, Mind, and Divine Action: The Hierarchy of the Sciences in Relation to the Human Mind–Brain–Body," in *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion,* edited by Philip Clayton and Paul Davies (Oxford: Oxford University Press, 2006). 274-275.

[6] Ibid., 275.

[7] See Christopher C. Knight, "Emergence, Naturalism, and Panentheism: An Eastern Christian Perspective," in *All That Is: A Naturalistic Faith for the Twenty-First Century*, ed. Philip Clayton, Theology and the Sciences (Minneapolis, MN: Fortress Press, 2007).

[8] Knight, "Theistic Naturalism and 'Special' Divine Providence," 536.

A naturalistic account that excludes divine presence and activity would thus be insufficient, lacking an important ontological context for nature – this is thus a theological recontexualisation of nature, affirming that a full account of the natural world would necessarily include an account of God-world interactions. It is the idea that we lose something of what it means to be natural if we exclude divine action and presence. This view is truly theistic insofar as it refers to a transcendent God whose ontology is distinct from that of the world. Thus, theistic naturalism is to be distinguished from religious naturalism, which is a position that may affirm religiosity – but not God as traditionally conceived in Christian theology. Theistic naturalism is also truly naturalistic, in two distinct ways. First, theistic naturalisms affirm the explanatory power of the natural sciences, arguing that God is somehow involved with the natural world at a different ontological level than that available to the sciences. They can agree with Drees that "naturalists wholeheartedly accept the findings of the natural sciences, more or less as the scientists themselves understand their results."[9] Theistic naturalists do not seek ontologically underdetermined areas of physical openness wherein God might act; instead, they affirm compatibilism. In fact, theistic naturalists can affirm that even if God were to act specifically and responsively in the natural world, there would still be (in principle) a scientific account available for that action. Their compatibilist commitments allow for a full affirmation of scientific accounts of all events, while simultaneously affirming divine agency in those same events. The second way in which theistic naturalism is naturalistic has less to do with the natural sciences and more to do with philosophy and metaphysics. Theistic naturalists can consider themselves naturalistic because of the way they understand naturalism in the first place: theirs is an explicitly theological framework that is, they argue, neither supported nor challenged by the natural sciences. In other words, theistic naturalists argue that science itself cannot prove, for example, metaphysical, scientific naturalism. For that, one must step outside of scientific methodology itself and make a metaphysical claim – as discussed in the previous chapter. Theistic naturalists recognise this inherent limitation of the natural sciences, and then make a metaphysical claim that is the mirror image of scientific naturalism: the natural world as understood by science is reality, but not *full* reality. The key claim of theistic naturalism is that a full description of the natural world necessarily includes not only observable phenomena subject to scientific explanation, but also the relationship and interaction between the physical world and God.

[9] Drees, "Thick Naturalism," 850.

One objection to theistic naturalism as described above is that it potentially expands the boundaries of naturalism to such an extent that "anything goes." Have theistic naturalists simply redefined naturalism in such a way that anything could potentially fall under its rubric? That is, if theologians can simply assert that supernatural involvement with the physical world is natural, naturalism might cease to have any real meaning. Conversely, theists may be concerned that theistic naturalism threatens God's transcendent otherness, insofar as it defines the natural at least partially in terms of divine involvement. In response to the first critique, it is helpful to reemphasise the naturalistic component of this approach. Theistic naturalism does not simply affirm that supernatural realities intervene in natural processes in a scientifically unexplainable manner. On the contrary, this position fully affirms scientific explanations for all natural phenomena. It is on a "deeper" or "higher" ontological level that divine engagement with the natural world is said to occur (more on this below). In response to the second concern regarding divine transcendence, it is important to emphasise that theistic naturalism does not say that God is part of, or even continuous with, the natural world. Theistic naturalism is not pantheistic, nor necessarily panentheistic (though it can be). This is a one-sided naturalism: a full explanation of the world as we know it requires an account of creaturely involvement with God. The reverse is not affirmed, however: God is not dependent on the world.

All of this is by way of introduction to theistic naturalism. There are many justifiable concerns with the oversimplified model outlined above. However, at this point it is helpful to move beyond the vague generalities of a metaphysical position, and engage with specific theological frameworks that can be understood as theistic naturalism, broadly conceived. In this chapter, I engage specifically with Thomistic divine action. While Thomistic scholars might not embrace theistic naturalism as a label, I suggest that their respective approaches to divine action do indeed fit with theistic naturalism as I have described it.

7.3 Thomistic Divine Action

It would be misleading to suggest that Thomism in any way offers a new divine action theory or, more specifically, a faddish response to the noninterventionist, incompatibilist paradigm represented by the DAP. Indeed, Thomistic divine action is something of a "gold standard" in divine action theology (and theology more generally, of course); in the historical context of the Christian tradition, it is what I have been calling the standard model that is indeed anomalous.

Moreover, it is also misleading to assume that there is a single, univocal Thomistic perspective on divine action; Thomism is a broad tradition containing drastically different voices. One might even observe that most everyone in Christian theology wants to claim Aquinas in support of his or her own respective position. All this is to say, from the outset, that I do not intend to provide a comprehensive or authoritative account of Thomistic theology, and could not do justice even to the tradition of Thomistic thought devoted to divine action. Thus, in what follows I do not attempt a historical analysis of Thomistic thought, but instead focus only on Thomistic divine action in the context of this thesis' argument. This caveat aside, a discussion of Thomistic divine action theories is necessary here. While many Thomists would reject the naturalistic label – and even the more qualified theistic naturalism category – I suggest that Thomism is at least compatible with theistic naturalism as discussed above.

Key to the Thomist's understanding of special divine action is the distinction between primary and secondary causality.[10] The problem with contemporary divine action debates, Aquinas scholar Ignacio Silva insists, is that they "assume that it is necessary to affirm a lack of natural powers to find a space for God to act in the created order."[11] That is, the standard approach to divine action often assumes incompatibilism, wherein natural causes and divine causes cannot be seen as effecting the same event. Either an event is caused by natural processes, or it is caused by divine action through ontologically underdetermined aspects of the natural world – but not both. Thomists, on the other hand, address divine action by challenging the incompatibilist position and affirming Aquinas' distinction between God as a primary cause on one hand, and created, secondary causes on the other: "God causes all action, as any active thing is the instrument of divine power acting."[12] Thomists argue that by working with an insufficient understanding of causation, the contemporary divine action debate terminally undermines itself. As Silva explains, "It is the univocal notion of causality which is assumed in the whole debate about divine action that prevents any metaphysical elasticity to distinguish God's causality from natural, created

[10] Aquinas himself did not speak of special divine action, but providential action and miracles. Miracles are discussed later in this chapter. Thomists in science-and-religion tend to treat providence as *special* providence, thus mapping loosely onto the contemporary debate's category of special divine action. See, for example, Silva, "Revisiting Aquinas," particularly page 287. However, while Silva distinguishes between GDA and SDA, other Thomists would be happy to do away with this common distinction. For example, Denis Edwards writes that "general divine action is accomplished through particular divine acts. The proposal here is that divine acts are always specific to the particular entity or process. In this sense, they are always special." Edwards, *How God Acts,* 57.

[11] Ignacio Silva, "Divine Action and Thomism: Why Thomas Aquinas' Thought is Attractive Today," *Acta Philosophica* 1, no. 25 (2016): 69.

[12] Aquinas, *The Power of God,* 3.7.

causality."[13] In seeking natural areas of underdetermined openness in which God might act, incompatibilists betray their assumption that God can only act in the same manner as do the physical (secondary) causes that are subject to scientific analysis.

The Thomistic principle of double agency affirms that God and natural agents work on different levels: God as primary cause creates, sustains, and acts through all secondary causes, but these secondary causes also have their own causal agency. So, "the same effect is ascribed to a natural cause and to God," and *fully* so: God and secondary causes do not "share the workload."[14] Rather, both the natural agent and God are fully efficacious causes. Indeed, it is "not as though part were effected by God and part by the natural agent: but the whole effect proceeds from each, yet in different ways."[15] So, for example, one may receive prayer for healing from cancer, and subsequently experience total eradication of the disease. A Thomist might say that God had indeed acted in response to specific prayer, but also that the secondary causes involved were also fully causal (i.e., the doctors, chemotherapy, or even simply the patient's own bodily processes were fully causal). To put the point even more clearly: not only is God as primary cause responsible for the general existence and agency of all created beings and processes, but "the key feature of this doctrine is that everything that the secondary cause is and does is caused by the primary cause."[16] While Aquinas outlines numerous ways in which primary causation might be said to occur through secondary causes,[17] the important point here is that Aquinas insists all natural events are truly caused both by secondary causes and God.

Because of this emphasis on double agency, the Thomist insists that any search for a causal joint is wrongheaded and presupposes an insufficient God-world model; *everything* is a causal joint. The search for ontological gaps and a causal joint presupposes that divine action must be effected on the same level as physical causation as it is understood in contemporary science. "If there is only one brand of causality," Aquinas scholar Michael Dodds explains, "God must subscribe to it and so be a univocal cause alongside of creatures. If such a God acts in the world, there must be a

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[13] Ignacio Silva, "A Cause Among Causes? God Acting in the Natural World," *The European Journal for the Philosophy of Religion* 7 no. 4 (2015): 107.

[14] Thomas Aquinas, *Summa Contra Gentiles* 3. 70.

[15] Ibid.

[16] Silva, "Revisiting Aquinas," 280.

[17] A full discussion of causation is beyond the scope of this thesis. For an overview of the various types of causation (material, formal, efficient, and final), see Silva, "A Cause Among Causes?"

point where his causality intersects with that of the creature – the now famous 'causal joint.'"[18] But Thomists have theological issues with the idea that God could ever act as a mere "cause among causes," as will be discussed below. Causal joint programs fail because, as theologian Elizabeth Johnson asserts, "in principle there are no gaps in the universe, which is complete on its own level."[19] The world of created causes operates on an entirely different level from God, whose agency works in and through natural processes in a way that respects the integrity and completeness of that natural level. As William Stoeger argues, the causal joint is the "active, richly differentiated, profoundly immanent (because it is transcendent) presence of God in created beings and their relationships."[20] Note that one implication of this perspective on the causal joint is that "on the natural level, one can describe what happens in the world entirely in terms of causes that are open to the investigation of empirical science."[21] This is an extremely important point, and underscores what was mentioned above regarding theistic naturalism more broadly: theistic naturalists affirm divine action, but deny that divine activity could ever be recognised as such through scientific methodology. In other words, even God's personal, providential responses to petitionary prayer would be effected through secondary causes and be fully explicable in naturalistic terms. This is quite different from the standard approach to divine action in recent decades, which says that God is restricted to acting in physical processes that are not determined by other physical factors.[22]

Unavoidably, the principle of double agency raises the question of how, exactly, God could act not through a causal joint, but through the material world of secondary causes that is already "complete on its own level." Thomists are unanimous in responding to this: we cannot ever understand how God acts through secondary causes. Aquinas affirmed that "God is the cause which is hidden" from every human being.[23] As Denis Edwards explains, we can know the effect of divine action in "the universe of creatures we find around us, with the relationships between them and the laws that govern them," but "a theology of divine action not only should not spell out how God acts, but should insist that this is something we cannot know."[24] This debate about

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[18] Dodds, *Unlocking Divine Action,* 107.

[19] Johnson, "Does God Play Dice?," 8.

[20] William R. Stoeger, "Epistemological and Ontological Issues Arising from Quantum Theory," in *Quantum Mechanics: Scientific Perspectives on Divine Action*, ed. Robert J. Russell, Philip Clayton, Kirk Wegter-McNelly, and John Polkinghorne (Vatican City State: Vatican Observatory Publications, 2001), 97.

[21] Dodds, *Unlocking Divine Action,* 187.

[22] This is not to say that those in the DAP would say that SDA is scientifically identifiable – most would not.

[23] Aquinas, *Summa Contra Gentiles*, 3. 101.

[24] Edwards, *How God Acts*, 63.

double agency will be picked up below; the important point here is that Thomists simultaneously affirm both divine (primary) and natural (secondary) agency, rejecting the incompatibilist assumptions of causal joint theorists. Indeed, the notion of a single, underdetermined causal joint runs wholly contrary to the Thomistic metaphysic and presupposes a God-world model that Thomists would flatly reject. That is, for the Thomist, *all* of nature is something of a causal joint; to pinpoint one particular aspect of nature as open to divine action is erroneous. It is in this sense that Thomists would also reject the noninterventionist paradigm as it is generally construed – not because Thomists affirm intervention, but because they deny the God-world model in which intervention would even be a metaphysical possibility. Because divine agency is always and everywhere active, the debate about intervention and nonintervention borders on the incoherent.

Perhaps unsurprisingly, the doctrine of double agency has provoked endless debate. Moving into specific objections to double agency, it is first worth looking at Aquinas' motivations for what might be considered a seemingly paradoxical approach. Aquinas was not oblivious to the fact that attributing one effect to two ontologically distinct causes might seem superfluous or paradoxical; in a particularly striking understatement he writes that "some find it difficult to understand how natural effects are ascribed to God and to the activity of nature."[25] Indeed. Aquinas, however, also wanted to affirm two things: divine transcendence and the integrity of created causes. Thomists in general are wary of contemporary causal joint theories, as they threaten to render God a mere "cause among causes." To equate divine action with something as physical as the collapse of a wavefunction, for example, is to undermine God's fundamental distinction from creation. For God's action to be primary, rather than secondary, means that "his action is one with his being, and no disposition or 'connecting link' stands between God and his action in creatures."[26] It is vitally important, Thomists say, to distinguish God's action from anything that could ever be scientifically studied or measured. Regardless, then, of the standard assumption that science precludes the possibility of divine action unless it occurs through underdetermined areas of nature, Thomists find it theologically problematic to affirm a causal joint approach.

[25] Aquinas, *Summa Contra Gentiles,* 3. 70. Indeed, Michael Dodds admits that this may be one of Aquinas' "greatest understatements." Dodds, *Unlocking Divine Action*, 207.

[26] Dodds, *Unlocking Divine Action,* 169.

Moreover, Aquinas has a very high view of the integrity and agency of natural processes, in a way that might seem prophetic in light of contemporary views regarding the laws of nature. As Johnson notes, Aquinas "is so convinced of the transcendent mystery of God…that he sees no threat to divinity in allowing creatures the fullest measure of agency according to their own nature."[27] For Aquinas, then, it is "a measure of the creative power of God" for creatures to exist and exercise creative agency.[28] By affirming that God acts through created, secondary causes, Thomists see themselves as upholding a dual commitment to transcendence and immanence: "nearness to God and genuine creaturely autonomy grow in direct rather than inverse proportion."[29] This dual commitment to the most profound immanence *and* transcendence can be seen as a motivation for the doctrine of double agency. For the Thomist, affirming that God acts as genuine primary cause through also genuinely causal secondary causes is a way to affirm both the interiority of God in all creatures, as well as the insurmountable fundamental difference between these analogical causal levels. This understanding of causality is so important for Thomism that Johnson can affirm that "in this system of thought it is incoherent to think of God as working in the world apart from secondary causes…God acts wholly through and in the finite agents that also act wholly in the event. As a result, the one effect issues from both primary and secondary causes simultaneously."[30] I have reiterated this point in various ways merely to affirm that the Thomist really means to say what she seems to be saying: Thomistic divine action (at least as it has traditionally been conceived) does not let one "off the hook," as it were, by allowing a sort of shared causality for any single event. Rather, the Thomist finds it theologically necessary to affirm this perhaps paradoxical model of causality; without it God is reduced to a cause among causes, and that is theologically unacceptable. God is not "simply a bigger and better secondary cause."[31]

At this point, a word about miracles is necessary. While I have bracketed off miracles in this thesis and chosen to focus explicitly on models of divine action prioritising God's action in and through natural processes (e.g., special divine action or, in some usages, providential divine action), an account of Thomistic divine action is not complete without noting Aquinas' view on miracles. Aquinas himself actually acknowledges the possibility of miracles, affirming that a

[27] Johnson, "Does God Play Dice?," 11.
[28] Ibid.
[29] Ibid., 12.
[30] Ibid. Although, as will be noted, Aquinas' account of miracles may be an exception to this.
[31] Ibid., 13.

miracle is "something difficult and unusual, surpassing the capabilities of nature,"[32] and not requiring secondary causes at all. Aquinas writes that God "can act apart from the given order, producing, for example, the effects of secondary causes without them or some effect that surpasses the powers of these causes."[33] It is fairly clear that Aquinas wished to affirm miraculous divine action in the sense of it being an action beyond the abilities of normal natural processes (though not, importantly, in direct intervention of those processes).[34] What, then, are we to make of this, given Aquinas' emphasis on creaturely integrity and independence? A detailed discussion of this question is beyond the scope of this project, but it is interesting to note that many Aquinas scholars have begun working creatively with a Thomistic model, such that double agency is stretched to include what we perceive as miracles. As Edwards writes, "God's respect for the integrity of secondary causes…may mean that even in miracles, God acts in and through the known and unknown laws of nature."[35] For example, if one understands the laws of nature not as reified prescriptions but as limited, descriptive models of reality, then in miracles "God might be working through all the unknown or partly known possibilities of the natural world that far surpass what we already know and model."[36] In other words, the category of miracle may be a human construction stemming from our incomplete knowledge of the way the laws of nature function in reality. We might not be able to imagine how a seemingly dramatic miracle could be a result of "normal" double agency, but that could simply reflect our incomplete knowledge of the laws of nature. In any case, it is interesting to note how contemporary Aquinas scholars in science-and-religion often minimise Aquinas' affirmation of miracles, instead subsuming them into the category of double agency: "It may well be that God is acting in and through secondary causes that we do not fully understand."[37]

7.4 Challenges to Thomistic Divine Action

The Thomistic conception of divine action has much to commend it, and (as will be discussed in the next section) it is perhaps the paradigmatic example of theistic naturalism: God is inherently involved in each and every natural event, albeit at a separate ontological level from the realm of secondary causes. However, there are challenges to Thomistic approaches to divine action.

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[32] Thomas Aquinas, *Summa Theologiae* 1. 105. 7.

[33] Ibid., 1. 105. 6.

[34] As Dodds writes, Aquinas "sees miracles not as a violation of nature or against (*contra*) nature, but rather 'outside' or 'beyond' (*praeter*) nature." Dodds, *Unlocking Divine Action*, 248.

[35] Edwards, *How God Acts*, 84.

[36] Denis Edwards, "Toward a Theology of Divine Action: William R. Stoeger, S.J., on the Laws of Nature," *Theological Studies* 76, no. 3 (2015): 501.

[37] Edwards, *How God Acts*, 89.

Thomists ultimately appeal to divine mystery when it comes to the actual "how" of double agency and the "what" of the causal joint. But even if all divine action theories inevitably reach a point of mystery beyond which they cannot go, the Thomistic version of this mystery might seem particularly susceptible to challenge. First, the Thomistic dismissal of the causal joint problem could be premature. Put simply, the causal joint problem is this: If God is transcendent (ontologically distinct from creation) and has specific purposes to be enacted in the natural world, then at some point the divine will *must* meet physical processes to bring about something that would not have happened had God not acted in that particular time and place. There must come a point when spiritual realities meet material processes and somehow effect physical events; otherwise it is difficult to see how divine action could ever be specific or "special." In other words, while the principle of double agency might make theological sense in explaining God's general, universal divine action in sustaining physical processes "from a distance," it may not be as effective in making sense of special, responsive divine action that results in material changes. Thomists reject the causal joint by affirming divine agency in all natural events, but this approach may begin to break down when applied to instances in which God is said to act specially in such a way that the course of nature is actually altered in some way. Special divine action, as typically construed, requires a causal joint, and it is unclear whether double agency is well-suited to this task. Moreover, rejecting the causal joint may ironically threaten divine transcendence. That is, in order to avoid pantheism, there must be a clean ontological break between God and nature, but this leaves us with an ontological gap between the divine will and physical processes – the now-infamous causal joint problem. If one rejects the causal joint altogether but still affirms special divine action, then one is in danger of conceptualising divine agency as being of a part with the rest of the natural world. Obviously, Thomism is not intentionally pantheistic. However, it is difficult to see how Thomism can affirm special divine action without admitting that in some way, God must somehow cross that ontological divide and specifically interact with physical processes. At the very least, I would suggest that the causal joint issue is a bigger problem than Thomists generally let on.

A second challenge to Thomistic divine action has to do with double agency, and has been briefly discussed above. It is easy to see why double agency (and compatibilism more broadly) is so attractive; as philosopher Frank Dilley explains (somewhat tongue-in-cheek), it allows those committed to both science and religion to affirm that "both theological and naturalistic explanations are true, religion and science do not interfere with each other, there is no problem

of miracles yet there is activity of God, and everyone can be happy."[38] Compatibilist double agency promises the best of both worlds, theological and scientific. However, it may be quite difficult to affirm that a specific, single event occurring in the physical world has both a fully efficacious natural (secondary) cause *and* a fully efficacious divine (primary) cause. As John Polkinghorne expresses the problem (perhaps hyperbolically), double agency may seem like "an unintelligible kind of theological doublespeak."[39] Explaining Polkinghorne's critique, Silva writes that Polkinghorne thinks double agency "becomes a fideistic solution to the problem of divine action, which turns out to be more of an evasion than a solution."[40] Similarly, Joseph Bracken admits to seeing "major problems in proposing that two ontologically independent subjects…each wholly produce one and the same finite effect"; this is because "two agents can each wholly produce the same effect only if one of them is strictly instrumental to the purpose of the other."[41] Again, Aquinas was clear on double agency, insisting that "the whole of the one same effect is ascribed to the instrument [secondary causes], and again the whole is ascribed to the principal agent [God as primary cause]."[42] So Aquinas affirms that events are fully caused by God, simultaneously with the secondary cause acting in its full, free capacity. But given the apparent sufficiency of these secondary causes, the assertion of primary causation can seem superfluous. If natural processes are fully causal in, say, a person's healing from cancer (as Thomism insists), how can God be said to be acting responsively in that same event? Put another way, Thomists have to do theological gymnastics to avoid falling into deism on one hand (insofar as they are eager to affirm the integrity of secondary causes), and theological determinism or occasionalism on the other (insofar as God is acting in every event). Another way of putting this is to note that double agency can handle general divine action fairly easily, but special divine action is more problematic. As Silva explains the issue:

> For if all the natural actions that occur are just what occur according to the order of nature, then God would not seem to exercise any more guidance over nature than does the God of deism. On the other hand, if some of those events are outside the ordinary course of nature, then Aquinas's view seems to entail that God cannot influence the world without acting against its order.[43]

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[38] Frank Dilley, "Does the 'God Who Acts' Really Act?," in *God's Activity in the World: The Contemporary Problem*, ed. Owen C. Thomas (Chico, CA: Scholars Press, 1983), 55-56.

[39] John Polkinghorne, *The Faith of a Physicist: Reflections of a Bottom-up Thinker,* The Gifford Lectures for 1993-4 (Minneapolis, MN: Fortress Press, 1996), 81-82.

[40] Silva, *Divine Action and Thomism*, 80.

[41] Joseph A. Bracken, "Response to Elizabeth Johnson's 'Does God Play Dice?'," *Theological Studies* 57, no. 3 (1996): 723.

[42] Aquinas, *Summa Contra Gentiles* 3. 70.

[43] Silva, "Revisiting Aquinas," 286.

That is, if God is acting specifically through secondary causes in every single event, how are the secondary causes anything more than a puppet for primary causation? If God is acting specially in every single event, occasionalism would seem to hold true – for God would be determining the outcome of every single event, and in contravention of the law-governed course of natural events. This seems incompatible with Aquinas' emphasis on creaturely integrity. On the other hand, if no divine action alters the functioning or direction of specific natural processes, how is this to be distinguished from deism? In other words, double agency runs the risk of reducing special divine action to a deistic form of general divine action: "If God acts exclusively as the absolute ontological ground of all events, and never acts directly to affect the course of history, can we say that God responds to the dramas of human history…?"[44] Merely asserting the full, simultaneous efficacy of both natural and divine causes may not, in fact, make it so.

Again, Thomists have theological reasons for affirming double agency, and view this doctrine as theologically *good*. Hence, Johnson and others can embrace divine mystery in affirming that "God's providential guidance is accomplished in and through the free working of secondary causes."[45] Though these statements might seem paradoxical, the appeal to transcendent mystery is advocated as a necessary good – rather than a theological problem which needs to be examined. As Edwards writes, "We have no direct access to God's creative act…so a theology of divine action not only should not spell out how God acts, but should insist that this is something we cannot know."[46] That is, the appeal to mystery is theologically important because it emphasises the ontological and epistemological gap between humans and God. This, in my view, is one of the chief problems with the Thomistic approach to divine action: an appeal to transcendent mystery is affirmed even when the statements at hand seem to be contradictory – when, for example, it is affirmed that God specifically acts to bring about physical changes in the world, even as physical causes also fully cause those same events. In fact, challenges to double agency can often seem strikingly succinct, as noted with Polkinghorne above. It does not take a great deal of philosophical nuance to see the potential challenge to Thomistic divine action: it simply seems redundant, to many, to affirm that both God and secondary causes are fully active in specific events, as when Johnson writes that "providential guidance is accomplished in and

[44] Thomas F. Tracy, "Special Divine Action and the Laws of Nature," *Scientific Perspectives on Divine Action: Twenty Years of Challenge and Progress*, ed. Robert John Russell, Nancey Murphy, and William R. Stoeger, S. J. (Vatican City State: Vatican Observatory Publications, 2008), 255.

[45] Johnson, "Does God Play Dice?," 15.

[46] Edwards, *How God Acts*, 63.

through the free working of secondary causes."[47] This is not to say that an affirmation of divine mystery is never called for. Quite to the contrary, I would suggest that any account of divine action will eventually run up against mystery, insofar as created beings cannot see "behind the curtain" of physical realities into the transcendent being of God. An acceptance of mystery or the inherent opacity of divine action is not the problem; the issue, in my view, lies in the possible incoherence that might arise upon examination of the specific details of double agency and the causal joint. However, these issues might be at least partially mitigated by acknowledging other aspects of Thomistic theology: namely, participatory ontology.[48]

7.5 Participatory Ontology and Thomism as Theistic Naturalism

Parallel with Aquinas' explication of double agency is a related, but distinct theme: participatory ontology, or the affirmation that all created things participate necessarily and inherently in and with God. As Johnson explains Aquinas' participatory ontology, "This notion of participation affects the understanding of both God and the world…the life-giving Spirit of God is in all things not as part of their essence but as the innermost source of their being, power, and action. There is, in other words, a constitutive presence of God at the heart of things."[49] This, in my view, is an immensely undervalued aspect of Aquinas' thought when it comes to divine action, though it has been explicitly articulated in recent years by Denis Edwards,[50] Joseph Bracken,[51] Elizabeth Johnson,[52] and others.[53] There is an enormous body of literature on every aspect of Aquinas' thought, and I cannot do justice to participation ontology here. However, a few things are worth noting. First, a holistic reading of Aquinas would suggest that his account of double agency is incomplete without an appreciation of his insistence on the intimate relationship between created things and God: "God must exist, and exist intimately in everything."[54] And

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[47] Johnson, "Does God Play Dice?," 15.

[48] There are other challenges to Thomistic divine action – most notably in regards to the problem of evil. If God is fully causal in every event, and even able to bring about special divine providence through double agency, theodicy becomes an enormous challenge. It might seem that "God is ultimately responsible for the evil resulting from secondary causes." Thomistic responses to the problem of evil are beyond the scope of this project; for one interesting approach (involving kenosis), see Craig A. Boyd and Aaron D. Cobb, "The Causality Distinction, Kenosis, and a Middle Way: Aquinas and Polkinghorne on Divine Action," *Theology and Science* 7, no. 4 (2009): 397.

[49] Johnson, "Does God Play Dice?," 11.

[50] See Edwards, *How God Acts*.

[51] See Joseph A. Bracken, *The One in the Many: A Contemporary Reconstruction of the God-world Relationship* (Grand Rapids, MI: Eerdmans, 2001).

[52] See Johnson, "Does God Play Dice?"

[53] Participation theology is quite conducive to panentheism, insofar as it stresses the ontological relationship between God and nature. Catholic panentheists in general may thus find participation ontology a helpful concept, especially considering participation's status as relatively orthodox, at least in comparison with panentheism.

[54] Aquinas, *Summa Theologiae* 1. 8. 1.

more to the point of divine action, Aquinas writes that "God acts interiorly in all things…for all things God is properly the cause of *esse,* which is innermost in all things."[55] I would even suggest that Aquinas' double agency formula may be an attempt to codify the intuition and affirmation that God's immanence in creation is the most "real" thing about creation. That is, participation in and with God *is* what it means for creatures to exist, or at least to be most fully natural. Denis Edwards puts it thus:

> If one accepts the idea that God is interiorly present to the whole creation and to every part of it, nearer to it than it is to itself, as the very ground and source of its existence, enabling and empowering it at every moment, then clearly God is never apart from or outside of creation. Divine transcendence does not make God distant. It enables God to be more interior to things than any creature could ever be. God never breaks in upon creation because God is already there. God never becomes present because God is not absent. God never comes from outside because God is always inside.[56]

By saying that God is "interiorly present" to and "enabling and empowering" all natural processes, Edwards is putting something of a participatory spin on double agency. Edwards' description of participatory double agency feels quite different from the relatively clinical terminology of Thomistic causation. Interestingly, Michael Dodds has actually suggested replacing "causation" terminology with "participation" for exactly this reason. As he explains, "If 'causation' tends to arouse images of interference, the word 'participation' seems to imply cooperation rather than intrusiveness. And if 'causation' raises the imagined need for a 'causal joint' in which cause and effect can somehow interface, 'participation' raises no such spectre since it accents the true intimacy which characterizes the action of God in the creature."[57] Participation, it could be argued, is the ontological core of Thomistic divine action, while articulations of double agency are relatively insufficient representations of creaturely participation with the immanent God. If Johnson is correct in asserting that "divine perfection is ultimately a perfection of relationality and love rather than of self-sufficiency and control,"[58] then perhaps this participatory ontology can help us make sense out of the paradox of double agency.

It is worth noting here that Aquinas' concept of participation actually comes from Neoplatonic and Augustinian philosophy, rather than from the Aristotelian tradition that provided the

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[55] Ibid., 1. 105. 5.

[56] Edwards, *How God Acts*, 46.

[57] Michael Dodds, "The Doctrine of Causality in Aquinas and *The Book of Causes*: One Key to Understanding the Nature of Divine Action," Lecture given at the Summer Thomistic Institute, University of Notre Dame, IN, July 14–21, 2000. https://maritain.nd.edu/jmc/ti00/dodds.htm.

[58] Johnson, "Does God Play Dice?," 17.

framework for Aquinas' various types of causation.[59] This, one could argue, has led to an apparent tension within Thomistic thought pertaining to divine action. On one hand, Thomists affirm the explanatory sufficiency of science in all secondary causes; the entire web of interrelated secondary causes is, in principle, explainable on the level of secondary causation, while God somehow works as primary cause on an entirely different level. Participation ontology, on the other hand, affirms that all creatures (secondary causes) exist and act only insofar as they participate dynamically in God. As Johnson writes, "God is everywhere present and active, continuously interacting with the world to implement divine purpose while granting creatures and created systems a full measure of being and efficacy."[60] But here the question at hand becomes even clearer: Is there a real difference between creaturely participation in, and cooperation with, God, or is this sort of participatory divine influence basically reducible to the primary/secondary scheme of standard double agency? One might ask, for example, whether Edwards is convincing in his description of double agency:

> God is always present, in the Word and in the Spirit, always breathing life into the process, always engaged, always responsive, and always achieving the divine purpose of creating a world of creatures to which God will give God's self in love… And divine love involves divine respect for the independence and integrity of the creature and the creaturely processes involved in the emergence of life on Earth. God does not override the process, nor bypass the laws of nature. God accepts and works creatively with the limits of creaturely processes, lovingly respecting the integrity of creatures. [61]

Edwards speaks here of God being "engaged," "responsive," and "work[ing] creatively" with physical processes in double agency. On the face of it, the participatory flavour of Edwards' approach would seem to be much more dynamic and relational than double agency as traditionally understood. However, one might wonder whether this is anything more than a particularly eloquent example of what Polkinghorne called "theological doublespeak." That is, while Edwards argues that God "works creatively with the limits of creaturely processes," it is unclear how any resulting action would escape the critiques of double agency explored above. Specifically, if God were "lovingly respecting the integrity of creatures" and allowing them full "independence" (e.g., not intervening in the laws of nature), how then could God still effect a specific change through those independent creatures? Though theologians such as Dodds might be correct that replacing causal language with participatory language might make double agency more palatable for some, it is not clear that this approach is substantially different from the more traditional conception of double agency. Nevertheless, and as will be discussed in the next

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[59] Dodds, Doctrine of Causality
[60] Johnson, "Does God Play Dice?," 14.
[61] Edwards, *How God Acts*, 66.

chapter, there may be ways to think of participatory divine action that lessen the potential challenges of double agency.

Critiques notwithstanding, I suggest that Thomistic divine action is a paradigmatic example of theistic naturalism. Not only does Thomism affirm God's involvement in all natural processes (hence the theistic qualifier), but it also affirms the simultaneous explicability of all events in natural terms – thus passing the naturalism litmus test.[62] Thomism is thus a wholly compatibilist approach to divine action that rejects the standard approach's obsession with noninterventionism. Thomists reject noninterventionism not because they affirm interventionism, but because they question the noninterventionist presumption that God is somehow uninvolved with the natural world in the first place. Aquinas writes that "God alone is being by His essence, while all others are beings through participation."[63] To be an actual being – or, perhaps, to be fully natural – is to participate in the divine life. However, I suggest that double agency remains problematic for Thomistic divine action, as does its dismissal of the causal joint problem. Moreover, it is worth noting that this approach is wholly immune to scientific critique – precisely because of double agency. That is, Thomists are compatibilists and fully affirm a scientific explanation of events in the natural world – even while attributing those same events to divine agency. Thus, there is literally nothing that the scientific community could say that would challenge Thomism; Thomistic divine action is framed in such a way that it automatically incorporates all scientific knowledge. This may or may not be problematic, depending on one's approach to the science-and-religion field. Still, it is worth noting that this extremely successful knowledge-seeking enterprise – modern science – is from the outset precluded from saying anything meaningful about divine action. As Silva sums up the main critiques of double agency: "The doctrine of primary and secondary causality 1) leaves the whole problem of divine action in the world shrouded in mist; 2) it does not solve the issue of particular divine actions; and 3) it promotes occasionalism."[64] In any case, it is helpful now to examine another theistic naturalist, who similarly rejects the standard divine action model, but without utilising Thomistic double agency.

[62] Again, miracles would be an exception to this, but Thomistic scholarship has largely been committed to associating SDA with Aquinas' framework of providence and double agency.

[63] Aquinas, *Summa Contra Gentiles* 3. 66.

[64] Silva, "Divine Action and Thomism," 80.

Chapter 8

Theistic Naturalism Part Two: Panentheistic Naturalism

8.1 Introduction

Rather than approaching the divine action debate in abstract philosophical terms, Part Two of this thesis has been devoted to exploring theologically-specific versions of theistic naturalism representative of the theological turn in science-and-religion. To that end, this chapter focuses on what I will call "panentheistic naturalism" – and particularly on the work of Orthodox theologian Christopher C. Knight. As Knight himself recognises, many of those who debate questions in the science-and-religion dialogue fail "to recognize fully the way in which the distinctive perspectives of particular theistic traditions might affect the answers given to those questions."[1] Hence, analogously to the previous chapter on Thomism, I here engage with Knight precisely because his model is firmly based on a specific theological framework – that of Eastern Orthodoxy. While I will not attempt a full explication or analysis of Eastern Orthodoxy here, this chapter will highlight the ways in which Knight's divine action model is influenced by the Eastern tradition. Specifically, this chapter highlights Knight's critique of the standard noninterventionist, incompatibilist divine action model, and engages with his fully theistic, fully naturalistic approach. While this model does not affirm special divine action in the way it is usually conceived, Knight argues that "there is, at a philosophical level, a fundamental flaw in the widespread belief that a strong theistic naturalism entails a very limited scope for divine providence."[2] That is, Knight argues that a panentheistic naturalism approach allows for an affirmation of robust, non-deistic general divine action. Indeed, Knight's thesis is that the expression of such divine activity actually makes nature *more* natural, rather than less.

I should note at the outset that Knight himself does not refer to his overall model as "panentheistic naturalism." At various stages of his writing, and in the varying contexts of specific theological arguments, Knight has referred to his approach as "incarnational

[1] Christopher C. Knight, "An Eastern Orthodox Critique of the Science-Theology Dialogue," *Zygon* 51, no. 3 (2016): 573.

[2] Knight, *The God of Nature*, x.

naturalism,"[3] "pan-sacramental naturalism,"[4] a "teleological-christological" model,[5] and "strong theistic naturalism."[6] Because these various terms are context-specific and aid the development of various strands of Knight's theology, I will not spend time here on the possible conceptual distinctions between these labels – Knight's core theological argument is of most interest here. Knight's main concern, as I see it, is to distinguish his model from a deistic form of naturalism in which God is assumed to be removed from, and uninvolved with, nature in the first place – i.e., not bringing about what is typically referred to as "special" divine action. On the contrary, Knight consistently affirms panentheism; this panentheism is an important theological element (though not the only one) of Knight's non-deistic claim that "strong theistic naturalism can, in principle, be constructed in such a way that the scope of divine action is not limited in the way that the deists assumed."[7] Thus, I will here refer to Knight's position as "panentheistic naturalism," bearing in mind that this is to refer only to Knight's model in particular. In what follows, then, I begin with an overview of Knight's model of divine action in the context of his particular understanding of theistic naturalism, largely drawing upon his book *The God of Nature: Incarnation and Contemporary Science*. In subsequent sections, I examine the theological underpinnings of this model, as well as the specific ways it addresses the causal joint and divine action. I will also briefly describe how Knight's model could be used to think theologically about divine action in the mind, more specifically. My overall argument here is that panentheistic naturalism offers a promising model of divine action that may address key weaknesses of the Thomistic approach discussed in the previous chapter – though not without potential challenges of its own.

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[3] See Chapter 13 of *The God of Nature*. Knight speaks of incarnational naturalism as an expanded version of pansacramental naturalism.

[4] Christopher C. Knight, "Theistic Naturalism and the Word Made Flesh," in *In Whom We Live and Move and Have Our Being: Panentheistic Reflection on God's Presence in a Scientific World*, ed. Philip Clayton and Arthur Peacocke (Grand Rapids, MI: Eerdmans, 2004), 56.

[5] Knight, *The God of Nature*, 119.

[6] Knight seems to have opted for this terminology in response to Peacocke's usage of theistic naturalism (see Peacocke, *All That Is*), to which Knight does not adhere. Knight expresses concern that Peacocke "still speaks of 'providential' action over and above what he sees as God's 'creative' action, and understands this providential action in causal-joint terms… he is very far removed from the sort of 'strong' theistic naturalism in which it is assumed that divine providence is to be understood solely in terms of God's upholding of the 'fixed instructions' that God has built into the world." Knight, *The God of Nature*, 27. Interestingly, Peacocke is – like Knight – happy to adopt a panentheistic model. However, Knight challenges Peacocke's acquiescence to the distinction between general and special divine action – Knight sees his own model as removing the need for the sort of temporal, special divine action that Peacocke still seems to affirm.

[7] Knight, *The God of Nature*, 116.

8.2 Divine Action in the Context of Theistic Naturalism

At the heart of Knight's divine action model is an affirmation of theistic naturalism. Specifically, Knight argues that nature's inherent involvement with God is a vital part of what it means to be natural: what is generally considered to be naturalism – that is, a position denying the influential presence of supernatural realities in the natural world – is "in fact no more than subnaturalism…Only in the context of what has been revealed to us by God can the universe in which we live be fully understood."[8] That is, Knight insists that an understanding of the natural world is insufficient if it excludes a priori an account of divine immanence and activity in nature. A naturalism that excludes the involvement and presence of God in nature is therefore fundamentally incomplete. Importantly, this version of theistic naturalism has more to do with ontology than epistemology; while humans may never attain scientific knowledge of full reality (including divine action), one can still make an ontological claim that complete knowledge of nature would necessarily include an account of divine involvement with the natural world. Thus, this version of naturalism is "far more complex than the kind of picture favored by most who think of themselves as naturalists."[9] Knight's is therefore an explicitly theological model, though one that is intended to be compatible with scientific knowledge. That is, this approach does not negate the success of scientific methodology, but it does constrain the ontological conclusions reached via its use. As a naturalistic approach, this model affirms the value of scientific knowledge about the seemingly law-governed world, but insists that "there may be insurmountable epistemological limitations to our grasp of [its] ontology."[10] That is, as discussed in previous chapters, the natural sciences themselves may not be the sort of thing that could definitively explicate a full ontology of reality as a whole – the sciences speak only to phenomena and processes that are empirically verifiable. In any case, Knight's model fits the criteria I have been using to describe theistic naturalism; it insists that nature is always involved with God's active presence, and that the standard model of divine action presumes erroneous metaphysical claims about the God-world relationship (revealed in its expressed commitment to noninterventionism and incompatibilism). While his theological model is based on an Orthodox panentheism instead of the Thomistic model described in the previous chapter, it is not dissimilar from Thomism in its affirmation that a full account of the natural world must necessarily include an account of nature's inherent involvement with God's active presence.

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[8] Knight, *The God of Nature*, 95.
[9] Ibid.
[10] Knight, "An Eastern Orthodox Critique," 576.

It is against this backdrop of theistic naturalism that Knight's divine action model is constructed. Given his panentheistic understanding of the God-world relationship, it is unsurprising that Knight rejects what I have been calling the standard model of divine action – i.e., the noninterventionist, incompatibilist approach favoured by the DAP and other causal joint theorists. Notably, Knight emphasises that even so-called "noninterventionist" divine action is, in fact, conceptualised in such a way that some sort of divine interference has occurred. "The mainstream 'noninterventionist' model has not," Knight argues, "abandoned interventionism in the widest sense of the term…[I]t is still presumed that there are two possible outcomes to any given situation: the one that will be brought about if nature is simply sustained in being by God, and the different one that will come about if God chooses to respond to the situation in a way that goes beyond [general providence]."[11] Causal joint models simply locate divine action in seemingly underdetermined areas of the natural world, and consider this to be noninterventionist because no laws are apparently broken. The prevailing God-world model implied in noninterventionism (and in interventionism, for that matter[12]), however, remains one in which the normal state of natural affairs excludes God's active presence. As Knight argues, "a 'noninterventionist' causal-joint scheme gives the illusion of having abandoned divine interference with the world when it has done nothing of the sort."[13] That is, noninterventionism still presumes that there are two conceivable outcomes in any situation: one in which nature is essentially left alone, and one in which God somehow acts to alter an outcome, albeit in a "lawful" manner. Not only is noninterventionism something of a misnomer, Knight argues, but it also betrays an arguably suboptimal model of the God-world relationship.

In Knight's model, conversely, "questions about how God acts 'on' the world – as if from outside – are rendered meaningless, since the model rejects the conceptual picture of what the cosmos can do 'on its own.'"[14] Knight understands divine action not as God somehow breaking into the natural world from the outside, but rather as "something that the Eastern Christian tradition has often stressed: a 'breaking out' of something that is always present in the world, albeit in a way that is usually hidden from us."[15] This model, then, stresses divine immanence to

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[11] Knight, "Theistic Naturalism and 'Special' Divine Providence," 534.
[12] Knight, "An Eastern Orthodox Critique," 584-585.
[13] Knight, *The God of Nature*, 26.
[14] Ibid., 122.
[15] Knight, *The God of Nature*, 95.

such an extent that it becomes meaningless to speak of a purely natural world apart from God in the first place. Divine activity is intrinsic – or perhaps even necessary – in nature, resulting from God's active presence that is never absent from nature to begin with. Referencing Orthodox theologian Vladimir Lossky, Knight writes that the Eastern tradition "knows nothing of 'pure nature' to which grace is added as a supernatural gift. For it, there is no natural or 'normal' state, since grace is implied by the act of creation itself."[16] Knight argues that this Orthodox understanding of nature and grace stands in contrast to the Western tradition. He argues that "for Orthodox theology there is no separation of grace and nature of the kind that medieval Western theologians (with the exception of Duns Scotus) saw as almost axiomatic."[17] It might seem counterintuitive to say that divine action is innate to the natural world – does this not erode the distinction between God and the natural world? This will be discussed further below in relation to "higher laws" and "fixed instructions," but one point is worth clarifying here: this approach to divine action affirms that nature is made more natural as it participates in God's active presence, and not that nature itself is divine or uncreated. In any case, Knight's Orthodox approach affirms that God's innate presence in nature renders divine action theologically normative.

8.3 Panentheism

At this point, a brief discussion on panentheism becomes necessary. Panentheism – the idea that the created world exists in God, but God is yet more than the world – has generated a great deal of discussion in science-and-religion, and I cannot do justice to this discussion here. Thus, I will focus this section on the direct relevance of panentheism for divine action, and the specifically Orthodox ways in which Knight incorporates panentheism into his divine action model. Arguably, Knight's model of divine action depends on a panentheistic metaphysic: nature cannot be considered as a discrete entity apart from the active, immanent presence of God because nature is inherently *in* God to begin with. Panentheism is not a single view, but contains a spectrum of positions ranging from the basic assertion that God is the ground of all being (but that creation is contingent), to the extreme view of process theologians that God is dependent on the cosmos.[18] Indeed, one could even say that "the concept of panentheism is not stable in

[16] Knight, "An Eastern Orthodox Critique," 584. Knight is here referencing Vladimir Lossky, *The Mystical Theology of the Eastern Church* (Cambridge: James Clarke, 1991), 101.

[17] Knight, "An Eastern Orthodox Critique," 584.

[18] For a helpful overview, see Michael W. Brierley, "Naming a Quiet Revolution: The Panentheistic Turn in Modern Theology," in *In Whom We Live and Move and Have Our Being. Panentheistic Reflections on God's Presence in a Scientific World,* ed. Philip Clayton and Arthur Peacocke (Grand Rapids, MI: Eerdmans, 2004).

itself."[19] That being said, the common thread running throughout panentheistic views is that "they all *share the intuition of a living two-way relation between God and world, within the inclusive reality of God."* [20] Many science-and-religion scholars are finding that something *like* panentheism is simply the most natural metaphysical framework arising from engagement with both Christian theology and contemporary science.[21]

While the body of literature surrounding panentheism is sizable indeed, the broad strokes of this approach are worth highlighting. The core of panentheism is its insistence that divine immanence is internal to all created things, because all created things exist within God. It is the idea that it is incoherent to speak of God "breaking into" the natural world, for the entire world exists within God in the first place. Panentheism is not to be confused with pantheism, for panentheism is equally insistent on both divine immanence and transcendence: God exists beyond the natural world and is not to be equated with nature itself. Arthur Peacocke expresses this tension by suggesting that we need a "model for expressing the closeness of God's presence to finite natural events, entities, structures, and processes and to their very existence; and we need it to be as close as possible without dissolving the necessary distinction between the Creator and what is created."[22] Panentheists argue that this need is made all the more acute as contemporary science renders increasingly insufficient the Western understanding of God's relationship to the world. That is (and as discussed in previous chapters), as science explicates lawlike natural processes for more and more phenomena, it becomes increasingly theologically problematic to conceptualise God as intermittently acting on the world from the "outside," as it were. Knight, for example, critiques "the notion – common in Western philosophical theism – that the world is intrinsically separated from God."[23] Panentheism promises a God-world model that rejects the claims of scientific naturalism – claims that depict nature as existing wholly apart from God's active presence, claims which (as already discussed) are ironically and implicitly presumed by standard noninterventionist models. Indeed, panentheism insists that "there is no 'place outside' the infinite God in which what is created could exist. God creates all-that-is *within*

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[19] Niels Henrik Gregersen, "Three Varieties of Panentheism," in *In Whom We Live and Move and Have Our Being: Panentheistic Reflections on God's Presence in a Scientific World,* ed. Philip Clayton and Arthur Peacocke (Grand Rapids, MI: Eerdmans, 2004), 19.

[20] Gregersen, "Three Varieties of Panentheism," 22.

[21] Though I here focus on reasons from within science-and-religion to take panentheism seriously, others have been attracted to this position for a myriad of philosophical, ethical, and theological reasons. For a helpful overview, see Clayton, *Adventures in the Spirit,* 120.

[22] Peacocke, *All That Is*, 21.

[23] Knight, *The God of Nature*, 31.

Godself while remaining ontologically distinct."[24] This God-world model thus has very significant implications for divine action debates.

Indeed, panentheism has become a metaphysic of choice for representatives of the theological turn in divine action. Specifically, panentheism would seem to provide a theological alternative to noninterventionist causal joint models, which might themselves be deemed unsatisfactory for all the reasons discussed in previous chapters. As Peacocke explains the panentheistic divine action model, "God is the *immanent* Creator creating in and through the processes of the natural order….This means we do not have to look for any *extra* supposed gaps in which, or mechanisms whereby, God might be supposed to be acting as Creator in the living world."[25] Panentheism thus fits very well with theistic naturalisms, offering a God-world model that allows for affirmations of divine action in and through natural processes themselves, circumventing charges of intervention precisely because God is immanent in all natural processes to begin with. Moreover, panentheism acts as a replacement for causal joint models seeking to locate divine action in underdetermined natural processes, for panentheism rejects the God-world model on which such causal joint theories are based. Rather than requiring a scientifically-identifiable causal joint, panentheism seems "to allow for direct divine participation in purely natural processes in a way that classical philosophical theism does not."[26] While there is disagreement about how best to conceptualise this,[27] panentheists suggest that there is some sort of ontological connection between God and nature, such that there does not need to be a theoretical causal joint. By insisting that the world exists within God in the first place, panentheists affirm that God-nature interaction is inherent to nature, rather than an intrusive affair involving violation of natural processes.[28] Indeed, the key to panentheistic divine action is its affirmation that God's active immanence in nature is a crucial component of what makes nature fully natural.

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[24] Peacocke, *All That Is*, 22.

[25] Ibid., 19.

[26] Knight, "Theistic Naturalism and the Word Made Flesh," 51.

[27] Clayton and Peacocke, eds., *In Whom We Live* is essentially an extended debate on just this question.

[28] It is interesting to note here that Philip Clayton is also a panentheist. This is a striking and somewhat puzzling feature of Clayton's work, because his emergentist divine action theory is essentially a causal joint approach. Because panentheism affirms divine action at a basic, fundamentally natural level (because all nature exists within God in the first place), it is interesting that Clayton opts for a causal joint model that actually limits the scope of divine action. Moreover, Clayton insists that the emergent mind involves "a level of reality that breaks the bond of naturalism," which would seem at odds with the naturalistic framework of panentheism, being more aligned to the standard noninterventionist model. Philip Clayton, "On the Value of the Panentheistic Analogy: A Response to Willem Drees," *Zygon* 35, no. 3 (2000): 699.

Of course, the looming question plaguing panentheism is what, exactly, it means for nature to exist *in* God; in Peacocke's words, "much turns on the sense of the *en*/"in" of pan*en*theism."[29] The great promise of panentheism is that it offers a God-world model that neither equates nature with God, on the one hand, nor locates nature wholly outside and independent of God, on the other. This means, however, that everything hangs on what it means for nature to be "in" God, with God also being more than (and not identical to) the world. I will not attempt to engage with all the ways panentheists have described the panentheistic model; a sizable literature exists around this.[30] Rather, it is helpful to highlight the way that Knight addresses this from within the Eastern tradition – namely, by engaging the Eastern tradition's *Logos* cosmology.

Knight is aware that Christian theologians have often been wary of naturalism in all its forms, mainly because it would seem to threaten the necessarily supernaturalist components of a Christian worldview. However, he suggests that Orthodoxy's emphasis on the divine *Logos*, the Word, serves to support a fully theistic naturalism without undermining divine transcendence. Engaging largely with Maximos the Confessor, Knight explains that "Maximos perceives the *Logos* of God not only in the person of Jesus, but in the words – *logoi* – of all prophetic utterance, and in the *logoi* – in the sense of underlying principles – of all created things from the beginning."[31] The suggestion there is that Jesus, as second person of the Trinity, is not only incarnate but is somehow involved in the fundamental substructure of nature.[32] Knight draws upon the Fourth Gospel here, emphasising that "it was not only through the Word – made flesh in Christ – that 'all things came to be' in the beginning. In addition, 'all that came to be was alive with his life' (John 1:1-4)…In some sense, the Word that 'came into' the world in the person of Jesus had not previously been absent from it."[33] Jesus, as the divine *Logos*, is intimately involved with the *logoi* in all created things. In fact, Maximos himself went so far as to say "the one *Logos* is

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[29] Arthur Peacocke, "Introduction: '*In* Whom We Live and Move and Have Our Being'?," in *In Whom We Live and Move and Have Our Being. Panentheistic Reflections on God's Presence in a Scientific World,* ed. Philip Clayton and Arthur Peacocke (Grand Rapids, MI: Eerdmans, 2004), xxi.

[30] See Clayton and Peacocke, eds., *In Whom We Live*; Peacocke, *All That Is*; Clayton, *Adventures In the Spirit*; John W. Cooper, *Panentheism, the Other God of the Philosophers: From Plato to the Present* (Grand Rapids, MI: Baker Academic, 2013); and David Ray Griffin, *Panentheism and Scientific Naturalism: Rethinking Evil, Morality, Religious Experience, Religious Pluralism, and the Academic Study of Religion*, Toward Ecological Civilization Series (Claremont, CA: Process Century Press, 2014).

[31] Knight, "Theistic Naturalism and the Word Made Flesh," 57. Italics added.

[32] This is consonant with "cosmic Christ" theology, and particularly involving the Fourth Gospel. See Keith Ward, *Christ and the Cosmos: A Reformulation of Trinitarian Doctrine* (Cambridge: Cambridge University Press, 2015), particularly Chapter 8.

[33] Knight, *The God of Nature*, 32.

the many *logoi,* and the many *logoi* are the one *Logos*."[34] The underlying principles of all nature participate in the divine *Logos*. As Andrew Louth explains, "Everything in the universe has its meaning in its own *logos*, or principle, but…all these *logoi* form a coherent whole, because they all participate in the one *Logos* of God."[35] In this Orthodox perspective, we see an affirmation of the fundamental relationship of all created things to the Godhead; there is an innate connection between God and nature that is, in some sense, the most natural thing about its status as "created."

It is the *Logos*, then (at least in part), that makes the "en" in panentheism a reality. As Knight explains, "the divine aspect of the person of Jesus represents, in this understanding, not something essentially alien to the natural world – a supernatural intrusion – but rather the coming to fullness of something present in it from the beginning."[36] In this approach, then, panentheism is not merely a metaphysical abstraction, but a God-world model finding support in the Eastern tradition's prioritisation of the *Logos'* universal implications.[37] Nature, in this model, is inherently involved with the Word: "This affirms not simply that in the person of Jesus the *Logos* became flesh, but also – in a way that is underdeveloped in most Western theology – that this same *Logos* is active throughout creation both as its source and its final purpose."[38] The *logoi* of all created, natural things are inseparable from the divine *Logos*; there is a fundamental, dynamic relationship between nature and the Word that is absolutely basic. At the very least, this is quite a different picture than the seemingly deistic model implied by noninterventionist causal joint models. Much more could be (and has been) said about panentheism, the Eastern tradition, and specifically *Logos* theology and cosmology.[39] My goal here is not to provide explanation or

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[34] Particularly found in Maximus the Confessor, *Ambiguum* 7, translated in St Maximus the Confessor, *On the Cosmic Mystery of Jesus Christ*, trans. Paul Blowers and Robert Louis Wilson (Crestwood, NY: St Vladimir's Seminary Press, 2003).

[35] Andrew Louth, *Introducing Eastern Orthodoxy* (London: SPCK, 2013), 42.

[36] Knight, "Theistic Naturalism and the Word Made Flesh," 58.

[37] Knight, "An Eastern Orthodox Critique," 583.

[38] Knight, "Theistic Naturalism and the Word Made Flesh," 59. Italics added.

[39] For example, while Knight's Orthodox emphasis focuses mainly on *Logos* cosmology, much work has also been done on the Eastern distinction between God's essence (*ousia)* and energies (*energeia*). As Orthodox theologian Kallistos Ware explains, "In his essence God is infinitely transcendent, utterly beyond all created being, beyond all understanding and all participation from the human side. But in his energies – which are nothing else than God himself in action – God is inexhaustibly immanent…While present in created things, these energies are not themselves created but uncreated and eternal." Kallistos Ware, "God Immanent Yet Transcendent: The Divine Energies According to Saint Gregory Palamas," in *In Whom We Live and Move and Have Our Being. Panentheistic Reflections on God's Presence in a Scientific World,* ed. Philip Clayton and Arthur Peacocke (Grand Rapids, MI: Eerdmans, 2004), 160. In this approach, there is something of God that is intrinsic to every created thing. Such a theological emphasis might remind one that the Eastern tradition actually embraces the ontological links between God and nature, rather than fearing them (as is more common in Western theism).

analysis of panentheism or Orthodox *Logos* cosmology, but merely to show how Knight's divine action model arises from a specific theological tradition, and how certain theological emphases impact one's understanding of theistic naturalism and divine action.

Within Knight's panentheistic naturalist framework, then, divine activity is seen as normative – dynamic participation of nature in the divine life enhances the naturalness of nature itself. In other words, nature's participation in God is inherent to nature's ontology – a standard scientistic naturalism would thus offer an incomplete ontological picture. Here, it is important to note that the Eastern tradition does not make a strict distinction between "natural" and "supernatural" realities, but rather between "created" and "uncreated." This may seem like a semantic difference, but it has important conceptual implications.[40] After all, much of the debate around naturalism and divine action has to do with a reluctance to admit the influence of supernatural causal influences on nature. For Orthodoxy, however, divine action in created entities is not focused on the supernatural at all, but on the inherent relationship between the uncreated God and the created natural world that exists within God. The difference may seem subtle, but it does soften the natural/supernatural dichotomy – which often hardens into a "natural *versus* supernatural" binary. This is especially true when one takes the *Logos*/*logoi* into account, as mentioned above; there is a sort of necessary connection between the *logoi* of all created things and the divine *Logos*. Knight notes that the patristic writers did actually refer to seemingly extraordinary divine acts – but without framing them in a natural/supernatural binary:

> When Eastern patristic writers did at times use the term *hyper physis* – meaning literally 'above nature' but usually translated as *supernatural* – what they envisaged was something subtly different to what Western authors usually mean when they speak of supernatural events. Because, for Orthodoxy, there is no 'pure nature' to which grace is added as a supernatural gift, events that are 'above nature' are not seen as supernatural in the technical Western sense.[41]

In this panentheistic approach, then, it is misleading to speak of divine action as being supernatural; it is far more appropriate to an Eastern context to speak of the divine acts as being above, or higher than, natural processes as generally conceived. Put another way, one might say that the *logoi* of all created things continually participate in the divine *Logos*, with varying effects

[40] So, for example, the boundary line between the created and uncreated falls in an interesting place for the Orthodox tradition. As Knight writes, "in Western writing angels were seen as falling on the same side of the natural-supernatural divide as God does, while, in terms of the Eastern distinction between uncreated and created, they were seen as falling into the other side of the divine to that which is appropriate to God." Knight, "An Eastern Orthodox Critique," 585.

[41] Ibid.

that are sometimes mislabelled as being supernatural. Far from being aberrant, creaturely participation in the divine *Logos* is thus seen as enhancing the naturalness of nature itself.

Indeed, Knight suggests that divine action "may be seen as an anticipation of our restoration to a 'natural' state from our present 'subnatural' one."[42] This idea – that divine action transforms nature into a more natural state – is an important one. A full exploration of Orthodox eschatology is beyond the scope of this chapter, but it is noteworthy that Knight's theological approach has a distinctly eschatological dimension – one that frames divine action as drawing nature teleologically into its intended state. Knight argues that what we usually think of as natural does not actually reflect God's original or ultimate intention for nature. Instead, "the world as we now usually experience it is seen as being in some sense unnatural…or – perhaps better – subnatural."[43] If what we mean by natural excludes divine activity, or refers to a state that is not God's ultimate intention for the world, then we are not referring to true naturalism. What might seem supernatural to us is, in fact, "simply that which is in accordance with a *truly* natural state. The state that it is 'above' is only our present *subnatural* one."[44] In a sense, this model challenges theologians to rethink the relationship between divine activity, eschatology, and normativity. That is, rather than viewing divine action as aberrant and inordinate, it is at least possible to entertain the possibility that divine activity might legitimately alter and enhance our baseline conceptions of what is "normal" in an eschatological perspective. Within this model, "when the universe 'changes' so as to bring about events of special providence, it is a sign and foretaste of what is to be when all the purposes of God have been fulfilled…Created things are, in the deepest sense, simply becoming themselves as they are in the intention of God….so that nature becomes "natural" once more."[45] This eschatological emphasis is a vital one for Knight's model, and serves to highlight how explicitly theological this approach is. That is, panentheistic naturalism has no use for the standard model's prioritisation of science in determining what is true about nature as a whole. Or, rather, the value of science is recognised – but also contextualised in a theologically-defined metaphysic in which the eschatological intentions of God have real implications even for physical events and empirical processes.

[42] Ibid., 586.
[43] Ibid.
[44] Ibid.
[45] Knight, *The God of Nature*, 94.

8.4 Panentheism, General Divine Action, and the Causal Joint

Having discussed the theological framework of Knight's panentheistic naturalism, I now turn to the difficult questions surrounding divine action and the causal joint. How does divine action actually work in Knight's Orthodox model? It is clear that this model attempts to address the causal joint problem at a theological level (per the theological turn in divine action theory), but the causal joint problem remains. If God is to bring about a specific event in the world, at some point and in some way divine intention must meet the natural processes of the space-time-causal world with which we are familiar. This is true even if one accepts panentheism; if the distinction between creator and created (i.e., transcendence) is to be preserved, there must be some theoretical meeting point between the two. To address this, Knight begins by addressing – and rejecting – the common distinction between general and special divine action. Namely, it would seem that the GDA/SDA dichotomy presupposes the deistic model of God that I have argued against in previous chapters, and which Knight also challenges (as discussed above). While I have argued against standard causal joint models for philosophical and broadly theological reasons, Knight argues these causal joint approaches "may also be seen as irrelevant if one abandons the distinction between 'general' and 'special' divine action in the way that aspects of Orthodox theology suggest is possible."[46] That is, once one has adopted a model in which the natural world is intimately and inherently involved with God at all levels and at all times – indeed, existing somehow within God – the distinction between God's general, sustaining activity and special, specifically responsive activity becomes unnecessary and problematic. It is unnecessary because (at least in Knight's model) God's general activity is sufficient to account for all the experiences many would consider to require special, temporal divine responses to unique circumstances (and, indeed, miracles). The distinction is potentially problematic as well, insofar as it serves to reinforce the quasi-deistic model of the God-world relationship presumed by standard noninterventionist models of divine action.

This is not to say that Knight does not recognise the difficulties posed by the causal joint problem, which SDA theorists attempt to address. Rather, Knight argues that standard SDA theories do not address the causal joint problem *well*. As he notes, "an adequate model of 'special' divine action requires more than an account of what is sometimes called the 'basic action' of God.'"[47] That is, if God is to "step in" and act specially in nature, there must be some

[46] Knight, "An Eastern Orthodox Critique," 575.
[47] Knight, *The God of Nature*, 26.

account of how the divine will results in a physical, observable event – this is the causal joint problem. Knight, however, argues that "in the causal-joint schemes that have been suggested within the dialogue of science and theology, any such understanding is conspicuously absent."[48] That is, causal joint theories do not actually "connect the dots," as it were, between the being of God and the eventual physical manifestation of experienced divine action. Knight's own model, however, begins by collapsing the distinction between GDA and SDA; in so doing, Knight can envision a single, unified model of general divine action that purports to address the causal joint problem at a theological level. Again, Knight insists that a proper understanding of general divine action can legitimise an affirmation of specific divine action that is experienced as special and responsive; this is not a rejection of one's experience of special divine action, but rather an expansion and enhancement of general divine action.

How, then, does an emphasis on general divine action address the causal joint problem? After collapsing the distinction between special and general divine action, Knight approaches the causal joint by positing "higher laws." Specifically, the suggestion is that "there may be laws of nature about which we know nothing scientifically but that nevertheless occasionally have significant effects."[49] That is, within the panentheistic naturalism framework, the known laws of nature currently acknowledged by the natural sciences represent only one piece of a much thicker causal picture. A full ontological description of nature would necessarily include an account of divine immanence and influence on nature; thus, the known laws of nature do not allow us to say with certainty what can or cannot happen within a naturalistic framework. In this model, "the laws of nature that can be investigated through the scientific method represent only a 'low-level' aspect of the way in which God's presence in the world allows God's will to be accomplished."[50] This distinction between lower and higher laws is not a new idea, and is very much a part of the wider Christian tradition. Knight references Augustine in particular:

> In Augustine's framework for the discussion of miracles, there is a clear implication that highly unusual events are able to occur because there is, over and above the natural law that we are able to understand, a 'higher' lawlike framework that the cosmos also obeys but that is in practice beyond our understanding. If there are simple systems that are susceptible to human understanding in terms of the 'lower' law, this is, Augustine seems to suggest, only because the threshold has not yet been reached at which the influences of this 'higher' component of natural law are significant in their effects.[51]

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[48] Ibid.
[49] Ibid., 39.
[50] Ibid., xi.
[51] Ibid., 36. Also see Augustine, *Of the Advantages of Believing* 34.

This is an important quote, as it suggests that what typically passes as SDA (or, indeed, as miraculous) can plausibly be considered a natural phenomenon. In other words, Knight is not suggesting that God is intervening in the laws of nature at a level inaccessible to science (analogous to, say, SDA in quantum processes), but rather that divine action is, in principle if not in practice, fully explicable in naturalistic terms. Indeed, one could say that theologically speaking, divine action represents laws of nature that are more fully natural – in an eschatological sense – than the lower laws accessible to science. As Knight notes, "patristic perspectives occasionally point towards an understanding of miracles, not in terms of natural laws being set aside, but in terms of what we might call 'higher laws of nature' becoming operative."[52] We see in this emphasis on higher laws the eschatological tone running through much of Knight's work. His model stresses the Orthodox tradition's emphasis on a "breaking out" in divine action of something that is always present. Knight explains his position thus: "There are, I believe, some laws of nature that can – if only under very unusual circumstances – bring into effect what we can describe theologically as a realization of the world's eschatological potential."[53] It is possible, then, that these higher laws could produce effects that seem abnormal or unlawful in scientific terms – but that are actually fully lawful from a higher perspective that takes the whole God-world context into account. If divine action seems unnatural from a scientific perspective, this is not "because it is not susceptible to a naturalistic understanding. Rather, it is because its manifestation depends on something that cannot be replicated under laboratory conditions: the faithful response to God of those who recognize him as their creator and redeemer."[54] Knight fully acknowledges that this sort of requirement (e.g., "the faithful response to God") might be impossible to replicate; it is possible that divine action is repeatable in principle, but "cannot be straightforwardly reproduced, because the conditions that are necessary for their occurrence are either unknown or cannot, practically, be repeated."[55] Thus, this model's eschatological dimension allows a sort of lawful, natural space for dynamic interaction between God and creaturely responses, even if the resulting divine activity is impossible to replicate.

In panentheistic naturalism, then, even seemingly dramatic instances of divine action are not "the result of divine interference with the world. Rather, they are reflections of an aspect of the *true* nature of the world…they may be seen as manifestations of 'laws of nature' that reflect, more

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[52] Knight, "An Eastern Orthodox Critique," 585.
[53] Knight, *The God of Nature*, 39.
[54] Ibid.
[55] Ibid., 36.

fully than those laws of nature that are scientifically explorable, God's presence in all things."[56] Chapter 2 of this thesis discussed various views on the laws of nature, one of which was the approximationist approach. On my reading of Knight, the suggestion of higher laws fits well with such an approximationist view: the laws of nature acknowledged by contemporary science do indeed correspond to reality at a relatively low level, but do not fully account for all lawlike activity that might occur at a higher level. One objection to this is that particularly dramatic experiences of divine action could not possibly be affirmed as being lawlike. After all, almost all accounts of the laws of nature insist that these regularities are just that: regular, testable, repeatable, and predictable. How, then, could seemingly singular events perceived as being supernatural (for example, a dramatic physical healing after petitionary prayer) still be considered natural, at least by scientifically-minded critics? For this, we need to examine another key element of Knight's model: what he calls "fixed instructions."

8.5 Higher Laws, Time, and Fixed Instructions

According to Knight, one conceptual failing of standard noninterventionist divine action theories is their insistence on God's temporal responsiveness to creaturely needs and situations. On one level, a theological insistence on divine responsiveness seems important for a theory of divine action: Christian theology has consistently emphasised the dynamic relationship between God and creation, and particularly highlighted the relational element of the God-nature relationship. To diminish divine responsiveness would seem to indicate a retreat into deism. However, Knight argues that responsiveness should not be conflated with temporality; indeed, he suggests that causal joint models fail to appreciate the relationship between God and time. Knight rejects "the scheme implicit in the causal joint model (and often explicitly defended by that model's advocates): one in which a 'temporal God' makes 'responses' to situations in the world."[57] In other words, the standard model assumes that in divine action, God is choosing to respond to creaturely needs in "real time" – or at least in what we perceive as being real time. Knight, however, suggests that this perspectival prioritisation is theologically insufficient. The "Orthodox understanding of God's relationship to time," he argues, "is much closer to traditional Western understandings of God's eternity – as found, for instance, in Aquinas – than it is to the scheme implicit in the causal joint model."[58] In other words, if God's actions are not

[56] Ibid., 94.
[57] Knight, "An Eastern Orthodox Critique," 581.
[58] Ibid.

constrained by the arrow of time in the way that creaturely actions are constrained, then other ways of understanding divine causation become possible. If God exists and acts outside of time, then it is as least possible for divine actions to be "set" at the beginning of our space-time universe, while still being experienced as temporal responses to specific situations in time.

In this model, what we perceive as being a temporal response to petitionary prayer (for example), might actually have been "'built into' [the] world from the beginning by its creator."[59] That is, the higher laws discussed above could have been built into the natural order as "fixed instructions" – just as with any other law of nature. As Knight explains, the created world "with its inbuilt 'fixed instructions,' is far more subtle and complex than our present scientific understanding indicates….we cannot preclude the possibility that the cosmos obeys not only the laws that can be identified [scientifically], but also other 'fixed instructions' that are not straightforwardly susceptible to this investigative methodology."[60] This approach to divine action, Knight argues, circumvents the intervention problem faced by all causal joint theories. That is, while causal joint theories must constantly find ways to insert God into preexisting laws of nature, "fixed instructions" for responsive divine action would have been built into the proverbial fabric of the universe at the moment of creation. Just as deists have no trouble affirming that God created and sustains the laws of nature – but does not subsequently interfere with them – so can Knight affirm that special divine responses to specific situations have been woven into the tapestry of laws instituted in a "single act" of creation.

How, then, are we to think of specific divine actions as fixed instructions understood within the framework of general divine action? After all, it is difficult to see how divine action could be personal and specific if it is not intentionally enacted in direct response to individual circumstances. Knight, however, argues that personal, specific action can be conceived of in various ways, and that "even human providential action can, in principle, be planned in any one of three ways."[61] To explain this, Knight asks readers to imagine the case of university students being financially supported by their parents. In this scenario, there are three ways that the parents could arrange for their child's financial support. Knight explains:

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[59] Knight, *The God of Nature*, 116.
[60] Ibid., 115.
[61] Ibid., 28.

1. It can be entirely unmediated: 'Here's your regular allowance – and some extra cash for the repairs that your car needs.'

2. It can be entirely mediated – for example through fixed instructions to a bank: 'Transfer such-and-such an amount every month to my daughter's bank account, and, in addition, if she provides invoices for repairs to her car, transfer to her account the amount necessary to cover those repairs.'

3. Depending on circumstances, it can be either mediated or unmediated: 'The money that comes automatically into your bank account will cover only your everyday expenses, so here's some more for your car repairs."[62]

In this analogy, the third option is most congruent with the standard causal joint model: God has created and sustains laws of nature (GDA), but is also directly responsive to needs as they arise (SDA). It is highly unlikely that the parents would choose the second option involving fixed instructions, as this would presumably require an impossibly extensive ability to imagine each and every contingency requiring parental assistance. The parents presumably would "recognize that their wisdom is limited, that they are unable to generate a set of 'if…then' statements that could cover all possible circumstances in which extra support would be appropriate."[63] Thus, for necessarily limited human beings, thinking of providential action in a more unmediated manner ("here is some cash for the mechanic") is an understandably intuitive way of thinking about personal, responsive action. God, however, is presumably not limited in the same way: "An infinite wisdom – which is what we attribute to God – is surely quite capable of setting up 'fixed instructions' in such a way that there is no need to supplement the general providence that they provide."[64] In other words, it is at least possible that God created laws (i.e., fixed instructions) to take into account each and every eventuality that might occur as the universe unfolds. Within this model, there could be higher laws that become efficacious in certain scenarios (for example, when a certain type of person is praying in a certain context), which would then result in divine action that is experienced by the individual as being a specific response to him/her – even though that action was a result of specific, higher laws of nature that were "fixed" when God created the universe. True, these fixed instructions are "far more subtle and complex than our present scientific understanding indicates," and might never be susceptible to scientific analysis; however, our inability to analyse such higher laws need not undermine their plausibility.[65] Knight highlights the Orthodox aspect of this approach:

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[62] Knight, "Theistic Naturalism and 'Special' Divine Providence," 538.
[63] Ibid., 538.
[64] Knight, *The God of Nature*, 29.
[65] Ibid., 115.

> The laws of nature perceptible to the scientist may be seen, theologically, as one manifestation of the *logoi* of created things, but not necessarily the only one…there may be other 'logical' or 'law-like' aspects of the functioning of the *logoi* that are beyond the scientist's perception, so that the kind of naturalism that we usually speak of may be seen as only a component of a deeper or 'enhanced' naturalism that is not fully accessible to scientific investigation.[66]

Knight's model thus challenges the assumption that divine action necessarily forces a choice among 1) temporal intervention in the laws of nature, 2) temporal special action through underdetermined causal joints, or 3) only a sort of general divine action that is impersonal and unresponsive to specific situations. Knight instead argues that "there is no fundamental reason to insist that [even seemingly miraculous] events cannot be ascribed to the regularities of the natural world that have been 'built into' that world from the beginning by its creator. A strong theistic naturalism can, in principle, be constructed in such a way that the scope of divine action is not limited in the way that the deists assumed."[67] These fixed instructions can presumably cover each and every experience of divine action, regardless of how dramatic or even seemingly miraculous. Even events that seem inexplicable in scientific terms can thus be considered natural in the truest sense, being initiated by the atemporal God as a proper law of nature.

It is important to remember here that this "single act" of divine action is not to be thought of as occurring in the past; to do so is to assume a potentially erroneous relationship between God and time. As Knight explains, "when considered in relation to the classical view of divine eternity…[a naturalistic model of divine providence] may also be understood as representing no more than the temporal manifestation of God's eternal action."[68] Thus, one need not think of general divine action as occurring in a far distant past – rather, it is eternal and being subjectively experienced within temporal constraints. This may also help to address the charge that this divine action model is, after all, deistic. Indeed, one might object that this approach de-personalises the God-nature model, rendering unnecessary or implausible any real relationship between God and creatures. This is an understandable concern, as general divine action conjures images of distance – ontological and temporal; a God who acts only by upholding the laws of nature may seem incompatible with the responsive God of Scripture. Knight, however, insists that this divine action model be contextualised within the panentheistic framework already discussed. He counters such concerns by affirming that "if God is in everything, then God can

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[66] Knight, "An Eastern Orthodox Critique," 584.
[67] Knight, *The God of Nature*, 116.
[68] Ibid., 133.

hardly be absent from the world in the way assumed in deism."[69] Thus, it is Knight's two-pronged emphasis on panentheism and the potential eternality, or timelessness, of God's "single act" that distinguish this model from deism.

8.6 Discussion

Knight's divine action model represents, in my estimation, one of the more compelling theological alternatives to standard causal joint theories. This approach is a strong representative of the theological turn in divine action theory, rejecting the noninterventionist causal joint framework and viewing divine action solely from a theological perspective. Thus, this model does not subject divine action itself to scientific inquiry; scientific methodology alone cannot determine the parameters of divine action, because divine actions themselves are built into higher laws of nature. In this sense, then, panentheistic divine action is a rejection of incompatibilism – but in a slightly different way than is Thomism. While Thomism affirms the full agency of both natural causes and divine causes in each and every event, the emphasis of Knight's model is on viewing divine actions as higher laws of nature. In other words, this model is not necessarily incongruent with Thomism, but its compatibilism is fleshed out quite differently. Knight himself notes that there are possible points of convergence between an Eastern approach and Thomism, explaining that "there has been an attempt to use scientific perspectives to understand divine action in a way that uses the Western scholastic conception of primary and secondary causation but also…transcends the old Western distinction between general and special modes of divine action."[70] For Knight, divine actions are compatible with the laws of nature because they *are* laws of nature; while this Orthodox-informed approach may not necessarily be at odds with Thomistic double agency, its panentheistic theological framework renders it a distinct alternative to Thomism.[71]

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[69] Knight, "An Eastern Orthodox Critique," 583.

[70] Ibid., 599. In particular, Knight references Edwards, *How God Acts,* as a Thomistic example of this convergence.

[71] Although, it should be noted that some have seen panentheistic overtones in Aquinas – or, rather, that Aquinas' emphasis on divine immanence lessens the distinctiveness of panentheism over and against the classical theistic tradition. For example, Aquinas writes that "God must exist and exist intimately in everything." Aquinas, *Summa Theologiae* 1. 8. 1. Also see Hans Gustafson, "Collapsing the Sacred and the Profane: Pan-Sacramental and Panentheistic Possibilities in Aquinas and Their Implications for Spirituality," *The Heythrop Journal* (2011), accessed 5 June, 2017, doi: 10.1111/j.1468-2265.2011.00684.x

Similarly, Knight's answer to the causal joint problem is perhaps uniquely promising. That is, by expanding the category of general divine action to include even those events generally attributed to special divine action, Knight escapes "God of the gaps" charges. In other words, the model does not envision divine action as a competitor with the laws of nature – divine responses to specific situations have been built into the laws of nature in the single event of creation. Thus, the causal joint becomes unnecessary in much the same way that a causal joint is unnecessary for deists affirming that God creates and sustains, say, the law of gravity. This is particularly true given the atemporal emphasis of Knight's model; while causal joint theories insist on God stepping into the natural order at specific moments in time, this model removes divine action from temporal considerations. Thus, there is no point at which divine intentions meet temporal physical processes. God's providential actions have been built into the lawlike fabric of the cosmos, thereby invalidating the charge that divine action must necessarily interrupt an otherwise autonomous natural world. Knight's emphasis on atemporal fixed instructions offers, I suggest, an intriguing solution to the causal joint problem, and one which may be superior to the Thomistic affirmation of double agency.

Beyond being an intriguing solution to the causal joint problem and double agency, Knight's model has important implications for divine action in the naturalised mind. Within this approach, the mind-brain is no more or less "open" to divine action than any other aspect of the created world – precisely because the entire physical world exists in God, and because God's fixed instructions would seem to be applicable within the mind. In other words, this approach to divine action in general renders the particular case of the Hard Problem theologically irrelevant. That is, while consciousness might be a particularly thorny problem for the biological and brain-related sciences, theologians need not be invested in identifying the mind as ontologically nonphysical or spiritual. There is nothing to be gained, theologically speaking, by arguing alongside Clayton that the mind is somehow "more than" physical. The difference between Knight and Clayton, then, is that Knight does not require the mind to be nonphysical in order to be a locus of divine action. Because his model does not frame the ontology of nature as being in any way autonomous from God in the first place, Knight should have no theological motivation for insisting that the mind be nonphysical. Thus, divine action in the mind becomes normative, but so does divine action elsewhere in the natural world.

As with any divine action theory, there are potential challenges to the Orthodox, panentheistic, naturalistic model. The first involves the idea that all divine action is general divine action, instantiated within the laws of nature in a single act of creation. Indeed, the very idea that makes Knight's model a persuasive answer to the causal joint problem is the same one that brings potential challenge. Put simply, one might argue that such a model of divine action is too far removed from the personal, relational, responsive God of Scripture, tradition, and human experience. One could perhaps go so far as to say that Knight's model is essentially deistic, but with a more nuanced account of the laws of nature and God's providence in general divine action. For example, take the analogy used to describe the various ways in which parents could provide financially for their children. The option that is supposedly analogous to Knight's divine action model is expressed in the following way:

> [The financial support] can be entirely mediated – for example through fixed instructions to a bank: 'Transfer such-and-such an amount every month to my daughter's bank account, and, in addition, if she provides invoices for repairs to her car, transfer to her account the amount necessary to cover those repairs.'[72]

Setting aside the fact that it would be practically impossible for parents to provide for every need in this way (as Knight indicates, God is not cognitively limited in the way that humans are), one might still wonder if this level of care is sufficient to sustain the sort of parent-child relationship one would presumably desire. In other words, if the only parental response to the child occurred via a bank mandate, this might be problematic. I would suggest that something important and relationally necessary occurs when a parent and child have a truly interactive, less mediated encounter – even if the end result (e.g., the car bill gets paid) is the same in either case. This concern is made especially pertinent given the particular focus of divine action which I have been considering in this thesis: the mind. As I have been arguing, divine action in the mind (a sense of God's presence, an experience of revelation or grace, a response to prayer that is experienced mentally, etc.) are just as "dramatic," in the sense that real physical processes are involved, as any other instance of divine action. Divine action in the mind is often experienced as being fundamentally relational and personal. As such, it may seem insufficient to say that those experiences of divine action are, in fact, pre-programmed natural responses arising from higher laws of nature (although, I admit, such a statement does mesh well with the growing body

[72] Knight, "Theistic Naturalism and 'Special' Divine Providence," 538.

of research on the evolutionary psychology of religion, as well as the cognitive science of belief).[73]

It is true, as noted above, that in this model it is erroneous to think of general divine action occurring in the past – rather, it should be seen as atemporal or eternal. Moreover, Knight is not saying that human experience of divine action is impersonal or nonrelational. On the contrary, and as noted above, Knight affirms that general divine action can be subjectively experienced as personal, responsive, and temporal. The question, in my view, is whether this understanding of God's relationship to temporal creatures is adequate. Of course, however, it may well be the case that one's discomfort with an idea has no relation to its validity; uneasiness with a God who does not act responsively in time could be merely a psychological response reflective of limited experience and imagination. As Knight himself insists, we must be wary of embracing an idea (special divine action) that "is based on a notion of divine 'personhood' that derives from projecting onto God notions of personhood derived from the human experience of being persons."[74] Moreover, Knight responds to potential critiques that his model is deistic by referring back to panentheism. Specifically, "it is important to recognize that a panentheistic account of God's relationship to the cosmos takes us immediately beyond the absentee-landlord concept because, if the world is in some sense 'in God'…God can hardly be a distant observer."[75] This is true – Knight's specifically Orthodox version of panentheism would seem to alleviate much of the concern that his model portrays a God who is distant and unresponsive. After all, if all of nature participates in God's radical immanence, and the *logoi* of all created things are in some way intimately involved with the divine *Logos*, then concerns about deism would seem to lessen.

However, panentheism itself is another point of challenge for Knight's model, insofar as it draws concern that the God/nature distinction is not being preserved (it is perhaps ironic that Knight could potentially be accused of being both a deist *and* a pantheist!). The debate surrounding panentheism is a complex one, and beyond the scope of this chapter. Also, it is important to note that any critique of the panentheistic aspect of this model is not specific to Knight's model

[73] That is, those studying the cognitive science of religion analyse the various evolutionary, biological, and cognitive mechanisms that, in a sense, "pre-programme" humans for religious belief. Justin Barrett is a key figure in this field; while he does not deal explicitly with Knight's higher laws, there is room to draw a theoretical connection between the two. See Justin Barrett, Barrett, *Why Would Anyone Believe in God?*, Cognitive Science of Religion Series (Lanham, MD: AltaMira Press, 2004).

[74] Knight, "An Eastern Orthodox Critique," 578.

[75] Knight, "Theistic Naturalism and 'Special' Divine Providence," 541.

itself; those who reject panentheism for any reason will likely struggle with Knight's model.[76] This being said, there are significant critiques of panentheism that could be applied. For example, one might question whether panentheism is significantly differentiated from a traditional theistic model.[77] Supporters often argue that panentheism places a stronger emphasis on divine immanence than does traditional Western theism – but does it? Niels Henrik Gregersen, for example, argues that "this claim is unwarranted, for classical theism…entails a very strong doctrine of divine immanence."[78] Indeed, there is a long theological history affirming God's ever-presence in an all created things. Aquinas, for example, insists that God must "exist intimately in everything,"[79] and even acknowledges that "one does use the bodily metaphor and talk of *everything being in God* inasmuch as he contains them."[80] It seems plausible, then, that the question of immanence is not the key issue here, nor is the question of nature metaphorically existing in God. As Gregersen puts it, "the real demarcation line between panentheism and classic philosophical theism is neither the immanence of God nor the use of the metaphor of the world's being 'in' God."[81] Rather, what distinguishes panentheism from classical theism is that panentheism stretches metaphor into ontology. For the panentheist, nature exists within the real being of God – however one interprets that. That, for some, might make it difficult to distinguish panentheism from pantheism. In other words, as long as the "point" of panentheism is to emphasise the relationship between God and nature, or the intimate presence of God in all things – then classical theism might be equipped to do this. If the "point" of panentheism is to move beyond a strong emphasis on immanence, then it may become difficult to avoid pantheism. As Michael Dodds argues, "despite its efforts to tread a middle course… panentheism seems to collapse inevitably into pantheism."[82] Dodds' conclusion may or may not be an overstatement; the point here is merely that if one takes issue with panentheism, then Knight's particular divine action model may be susceptible to critique for the same reasons.[83]

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[76] Moreover, Knight seems to suggest that his model is "workable" even outside of a panentheistic framework. As he writes, "a strong theistic naturalism, *even before its deistic overtones are removed through a panentheistic expansion*, is not incompatible with a belief in divine providence that goes well beyond the deistic understanding of that term." Emphasis added. Knight, "Theistic Naturalism and 'Special' Divine Providence," 541.

[77] For a helpful examination of panentheism's complicated relationship with theism and pantheism, respectively, see Ryan Mullins, "The Difficulty with Demarcating Panentheism," *Sophia* 55, no. 3 (2016): 325-46.

[78] Gregersen, "Three Varieties of Panentheism," 23.

[79] Aquinas, *Summa Theologiae* 1. 8. 1.

[80] Ibid. Italics added.

[81] Gregersen, "Three Varieties of Panentheism," 24.

[82] Dodds, *Unlocking Divine Action*, 167.

[83] This being said, one could argue that Eastern Orthodoxy offers a uniquely compelling version of panentheism that has advantages over a broad, generic panentheism.

8.7 Conclusion

This chapter has focused on Knight's panentheistic naturalism, and the Orthodox-influenced model of divine action resulting from it. In its rejection of what I have been calling the "standard model" of divine action, panentheistic naturalism fits well in the theological turn I have been discussing in Part Two of this thesis. It is particularly interesting to note the ways in which differing theological frameworks (e.g., Thomism and panentheistic naturalism) produce such different divine action models – while still, I suggest, remaining firmly within the bounds of the theological turn. That is, while the Thomist insists upon double agency and Knight explores a different version of primary/secondary causality, both reject the casual joint, incompatibilism, and noninterventionism. In so doing, both approaches shift the divine action debate away from the use of science in determining the parameters and possibilities for divine action, insisting instead that divine action occurs at an ontological level beyond the reach of scientific methodology. One possible lingering concern about both approaches, then, involves the relative exclusion of science from divine action theology. One might argue that Knight's model deflates the role of scientific methodology to accurately identify and articulate the laws of nature and the empirical mechanisms underlying observable phenomena. Insofar as one views science-and-religion as a field inviting scientific insight into theological discussions, the model may seem to inappropriately grant theology immunity from scientific knowledge and practice. However, this challenge is not unique to panentheistic naturalism, but is a potential issue for theistic naturalism more broadly. In any case, I continue to agree that the theological turn is far superior to the standard approach to divine action, and that the varieties of theistic naturalism surveyed thus far offer real promise for the field. This being said, I now turn to the final version of theistic naturalism surveyed in this thesis: pneumatological naturalism.

Chapter 9

Theistic Naturalism Part Three: A Pneumatological Assist

9.1 Introduction

This chapter examines what can be called "pneumatological naturalism," and concludes this three-part section on theistic naturalisms and divine action in the mind. The goal of Part Two of this thesis has been to explore the various ways in which specific versions of theistic naturalism render different approaches to divine action and what it means to be natural – these models then serve as theological frameworks for understanding divine action in the naturalised mind. My argument in Part Two so far has been that while these varying theological approaches differ in their respective emphases and methods of handling the causal joint problem, they hold in common a similar understanding of the God-nature relationship (and, indeed, the God-mind relationship), at least insofar as divine action is concerned. More specifically, it is argued that Thomism, panentheistic naturalism, and pneumatological naturalism share an affirmation that God's active, immanent presence is inherent in any fully naturalistic account. Put differently, these theistic naturalisms reject standard causal joint models of divine action because of these models' arguably deistic presumptions that nature is, by default, autonomous, self-sufficient, and devoid of divine activity. Theistic naturalisms instead offer models of divine action in which natural processes – and particularly the mind, as will be discussed below – are not seen as competing with divine action, but as participating with God in a fully natural manner.

This chapter, then, focuses on pneumatological naturalism, and particularly on the work of two leading advocates of this approach to divine action: James K. A. Smith and Amos Yong.[1] In this

[1] While I here focus on Smith and Yong, they are not the only scholars to bring pneumatology into direct conversation with theistic naturalism and divine action. Wolfhart Pannenberg is perhaps the most notable example; he was a theistic naturalist to the extent that he considered the presence and action of the Spirit in Creation as integral to nature. Pannenberg was remarkably bold in his pneumatology, somewhat infamously positing the Spirit as a sort of force field. He writes that "the Spirit of God can be understood as the supreme field of power that pervades all of creation. Each finite event or being is to be considered as a special manifestation of that field, and their movements are responsive to its forces." Wolfhart Pannenberg, *Systematic Theology: Volume 1*, trans. G. Bromiley, (Grand Rapids, MI: Eerdmans, 1991), 382. Controversially, Pannenberg seems to take this idea of the Spirit as "field" beyond that of mere metaphor, drawing heavily on Einstein, Michael Faraday, and the concepts of force and energy. Rather than conceding that such language is metaphorical, Pannenberg instead attempts to spiritualise *all* of physics itself: "I rather think that the modern conception of fields and energy went a long way to

chapter, I also bring this thesis' overall argument full circle by highlighting the role of the mind-brain in divine action and theistic naturalism more broadly. My argument is that while not without its weaknesses, pneumatological naturalism may provide a helpful theological framework for divine action that affirms both divine action and the importance of the embodied, naturalised mind, while avoiding the weaknesses inherent in approaches (e.g., Clayton's) that privilege the mind as uniquely spiritual and nonphysical. Pneumatological naturalism is a version of theistic naturalism that sees the Spirit's presence and influence in nature as normative – it is natural for nature to participate in, and experience the influence of, the Spirit. Within this framework, even seemingly dramatic divine action is seen as an almost expected phenomenon in a Spirit-infused world. The emphasis in pneumatological naturalism is on creaturely participation with the Spirit, which serves to underscore the importance of the human mind as a particularly intense locus of human participation in God. In what follows, I first examine Smith's metaphysical and theological framework for what he calls "enchanted naturalism," which serves as the philosophical infrastructure for a pneumatological model of divine action. While this enchanted naturalism is consistent with theistic naturalism more broadly and potentially helpful for divine action theology, it also fails to adequately address the causal joint problem. Thus, I then turn to the work of Amos Yong, whose "pneumatological assist" serves to expand Smith's metaphysical framework, using this framework to develop a more full-fledged divine action model and specifically address the causal joint problem. I then bring this pneumatological model of divine action into direct conversation with the naturalised mind, showing how the model helps to make sense of why divine action seems to occur with varying intensity in different places and circumstances. That is, some natural spaces (e.g., the mind) seem to draw more of a divine response than others, and pneumatological naturalism uses its participation ontology to address this. This discussion is followed by a brief critique of pneumatological naturalism's potential weaknesses, as well as potential challenges to theistic naturalism more broadly. Finally, I use this chapter to draw together the threads of various theistic naturalisms, suggesting that while they face significant critiques, theistic naturalism may offer a theologically robust and scientifically compatible approach to divine action in the mind, relatively speaking. While acknowledging the

'spiritualise' physics." Wolfhart Pannenberg, "Theological Appropriation of Scientific Understandings: Response to Hefner, Wicken, Eaves, and Tipler," in *Beginning With the End: God, Science, and Wolfhart Pannenberg*, ed. Carol Rausch Albright and Joel Haugen (Chicago: Open Court, 1997), 429. Pannenberg has been roundly criticised for his ideas about the Spirit and force fields, and so I will not engage his work here. However, it is worth noting that the *sort* of thing Pannenberg was attempting to do is on the right track: seeking to develop a theistic naturalism that recognises the importance of affirming the naturalness of creation's engagement with the Spirit. For a fuller discussion of these issues, see: Timothy Harvie, "God as a Field of Force: Personhood and Science in Wolfhart Pannenberg's Pneumatology," *The Heythrop Journal* 52 (2011): 250-259.

notable differences between the models surveyed, I argue that their common commitment to a "grace-infused" natural world offers a much-needed rebuttal to standard causal joint programs. I conclude that while the naturalisation of the mind might seem theologically threatening to some, this need not be the case – at least when one sees the entire natural world as participating in the immanent, active God who is always and ever drawing creatures into a fuller participation in true, full naturalism.

9.2 Pneumatology and James K. A. Smith's "Enchanted Naturalism"

In the science-and-religion field in general, and in divine action discussions in particular, sustained attention to the person and work of the Holy Spirit has been limited at best. This is perhaps understandable, as the Spirit can be notoriously more difficult to talk about than God the Son or God the Father, respectively. Insofar as Jesus is a concrete, relatable human, Christology might be seen as relatively more accessible than the immaterial, mediated person and work of the Holy Spirit.[2] Likewise, theologies of God as creator are easily brought into conversation with philosophical abstractions that may seem appealing to Western academic discourse. Talk of a disembodied Spirit in the natural world, on the other hand, can sound uncomfortably primitive in the West, where the "tradition has experienced a sustained period of demythologization in which true knowledge is limited to a naturalized, empirical, material world."[3] Because of the linguistic difficulties of "Spirit language," the demythologised worldview of Western intellectual history, and our subsequently constrained ability to develop frameworks for interacting with God as "Spirit" in creation, it could be said that "a spirit-world is close to – if not altogether – an intellectual impossibility."[4] And yet, Scripture speaks consistently (though variously and ambiguously) of the Spirit as the immanent, active God in the natural world.[5] When the Spirit is taken seriously, implications for divine action become quickly apparent, while also raising significant challenges to the standard God-world, natural-supernatural dichotomies generally assumed in SDA conversations.

One scholar attempting to bring pneumatology into a conversation with science and divine action is philosopher James K. A. Smith, whose "enchanted naturalism" insists upon a

[2] Daniel Castelo, *Pneumatology: A Guide for the Perplexed* (London: Bloomsbury, 2015), 6.
[3] Ibid., p. 3.
[4] Ibid., p. 4.
[5] Ibid., Chapter 2.

theological ontology that normalises ongoing participation of nature in and with the Spirit – sometimes to dramatic effect. Smith's dual commitment to both rigorous philosophical method and a pentecostal worldview make him a fascinating conversation partner in this discussion on divine action and pneumatology. It should be noted at the outset that Smith's pentecostalism is not denominationally specific, but rather meant to refer to all Christians who adopt "a position of radical openness to God, and in particular, God doing something *differently* or *new*."[6] One might counter that such a position is basically characteristic of Christianity in general, and Smith would acknowledge this – to an extent. That is, Smith extends this position of radical openness to include an emphasis on embodiment and expressiveness; pentecostal openness to God is bound up with an acceptance of the role that physicality plays in human participation with the Spirit. As Smith explains, "the reason why pentecostal worship is so affective, tactile, and emotive is because pentecostal spirituality rejects 'cognitivist' pictures of the human person that would construe us as fundamentally 'thinking things.'"[7] (Incidentally, and as we will see below, this affirmation of full embodiment – including the mind-brain – is what makes pneumatological naturalism particularly well-suited to a theology of divine action in consciousness. The pneumatological naturalist does not lose anything, theologically, by affirming that the human is wholly physical – precisely because the physical itself is bound up with the Spirit.) In any case, while Smith's emphasis on the "affective, tactile, and emotive" might discourage some from accepting this label, in what follows I treat his understanding of pentecostalism as "radical openness to God" to apply, in principle, to all Christians. Because of this, and for the sake of clarity and inclusion, I will use "pneumatological" synonymously with "pentecostal."

Smith seeks to go beyond natural/supernatural dichotomies (not only as employed by nontheistic naturalists, but DAP-style noninterventionists as well) and offer a pneumatological model of the God-world relationship that normalises the active presence of the Spirit in creation. Similarly to Knight, Smith begins from the theological affirmation that all nature is inherently involved with God, and this "dynamic, participatory ontology refuses the static ontologies that presume the autonomy of nature."[8] Like Knight, Smith refuses the God-world model implied by noninterventionist causal joint schemes, instead emphasising divine immanence and the normativity of God's active presence in nature. Where Smith differs from Knight is his pneumatological focus – both in his pneumatological naturalism framework more broadly, and in

[6] Smith, *Thinking in Tongues,* 12.
[7] Ibid., 71.
[8] Smith, "Is the Universe Open for Surprise?," 890.

his approach to divine action. Whereas Knight draws on the panentheistic metaphysic of Eastern Orthodoxy and his own theory of God's atemporal "fixed instructions," Smith distances himself from panentheism while using pneumatology to support a version of participatory, "en-Spirited" theistic naturalism that affirms temporal divine action. Indeed, one can say that Smith's use of pneumatology performs the same metaphysical function as does panentheism: softening the natural/supernatural dichotomy and rendering theologically incoherent the notion that it is possible for nature even to exist apart from God's active presence. Rather than assuming that the default position for nature is to be law-governed, regular, and devoid of special divine action, Smith affirms a bias toward ongoing divine action: the experience of God's responsive activity is theologically normative as nature participates in the Spirit, in varying degrees.

This participatory ontology is crucial to Smith's enchanted naturalism, and here it is worth noting its connections to Radical Orthodoxy (RO). Radical Orthodox is a postmodernist theological and philosophical movement (largely originating in the Anglican tradition but also drawing upon its close theological cousin, the Catholic *nouvelle théologie*) that essentially seeks to restore theology to its former role as the "queen of the sciences."[9] In regards to science-and-religion and divine action more specifically, proponents of RO tend to reject secular (read: scientistic) articulations not only of the laws of nature and physical events, but of naturalism more broadly. That is, RO advocates insist that it is theology (and not science) that has the final say of what is true about nature. While a full discussion of Radical Orthodoxy lies beyond the purview of this thesis, it is useful to highlight Smith's dependence on its leaders' formulations of participation and nature, respectively. Noting that his model's ontology is akin to that of Henri de Lubac, Smith writes the following:

> By eschewing the simple distinction between discrete realms of nature and supernature, de Lubac struggled to articulate a paradoxical phenomenon: that nature is oriented to the supernatural and that this orientation to the supernatural is natural (that is, constitutive of creaturehood)…Creation *is* (and nature *is*) insofar as it participates in and is indwelled by God, in whom we live and move and have our being (Acts 17:28)…Thus the shape of de Lubac's blurring of the natural/supernatural distinction finds a more detailed ontological articulation in Radical Orthodoxy's participatory ontology…, which provides a dynamic sense of the God-world relation that would eschew both naturalism and supernaturalism…It affirms that matter *as created* exceeds itself and *is* only insofar as it participates in or is suspended from the transcendent Creator, and it affirms that there is a significant sense in which the transcendent inheres in immanence. 'Things,' then, and the created order in general, do not have any kind of 'sheer' or autonomous existence, as

[9] See Smith's *Radical Orthodoxy* for a helpful introduction to the movement, as well as to Smith's own philosophical commitments.

> if possessing some kind of inalienable right to be. Rather, being is a gift from the transcendent Creator such that things exist only insofar as they participate in the being of the Creator.[10]

Here, then, we see Smith's connection to theological movements that privilege the language of participation, insisting that to be natural is to participate in God. The Spirit, for Smith, is actually "constitutive of creaturehood." Instead of understanding the natural world as an essentially autonomous creation in which God can act only through "gappy" underdetermined areas, Smith emphasises the Spirit's immanence in creation. The Spirit's presence and action (as attested to in Scripture and tradition) should be considered fundamental to a full explanation of reality. As pneumatologist Daniel Castelo puts it, "*Spirit-matters are the most natural things there are.* Or to put another way: *Nature is Spirit-graced to its core so that what is fundamentally characteristic of nature is that it is Spirit-related.*"[11] It is in this sense that Smith's position can be called "naturalistic," for nature is inherently involved with and saturated by the Spirit. As Smith puts it, "nature, in a sense, is 'suspended' in the Spirit of creation; or we might say that creation is 'charged' with the Spirit's presence. Nature, then, is always more than 'the natural.' It is suffused with something more; there is always more than meets the naturalizing eye"' – unless, of course, that "naturalizing eye" includes the Spirit's immanence and activity in its purview.[12] To the extent that naturalism indicates commitment to the fullest explanation of reality (whether currently explicable or not), then it can, in principle, be expanded to include nature's participation in the Spirit. Immediately, then, it is apparent that Smith distances himself from the more acquiescent naturalistic impulses pursued by some in science-and-religion. As Smith critiques, "It is this primary concern of acceding to the naturalism of science that motivates the growing commitment to naturalism by theologians engaged in the theology/science dialogue. I would describe this as a 'correlationist' project: a theological project that cedes the 'truth' of a particular sphere to a 'secular' and supposedly neutral, rational science and then seeks to 'correlate' theological claims to conform to the standards established by the secular."[13] Such a correlationist project is not what Smith has in mind with his naturalistic paradigm: rather than ceding theological control to imperialistic

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[10] Smith, "Is the Universe Open for Surprise?," 889.
[11] Castelo, *Pneumatology,* 74.
[12] Smith, *Thinking in Tongues*, 40.
[13] Ibid., 94.

scientistic naturalisms (or "wilt[ing] before scientific knowledge"[14]), Smith's pneumatological naturalism resituates science itself in a theological, metaphysical framework.[15]

Before going any further, there is one important component of Smith's pneumatological naturalism that is particularly pertinent to this thesis' argument. Namely, Smith's theistic naturalism is not one that ignores the importance of physical processes – though this could plausibly be a critique of all theistic naturalisms. That is, insofar as theistic naturalisms expand the notion of what it means to be natural, critics might argue that such an expansion amounts to little more than a redefinition of terms, a language game that moves away from the scientific priority of empirical, observable realities. Smith, however, insists that embodiment and corporeality are vitally important for his enchanted naturalism. The affirmation of "'nature' as always already inhabited by the Spirit"[16] does not minimise the importance of brute physical realities – just the opposite. Smith notes that "pentecostal worship and practice are characterized by a kind of gritty materiality as space for work of the Spirit" – far from minimising physicality, pneumatological naturalism *elevates* the physical, insofar as the physical participates in the Spirit.[17] This has significant implications for this thesis' argument that the mind is not uniquely nonphysical or spiritual: because this model "does not reduce human identity to thinking or a disembodied mind," even a physical mind-brain need not be threatening.[18] That is, Smith's enchanted naturalism "perceives the material creation as 'charged' with the presence of the Spirit," and this includes a "nondualistic affirmation of embodiment and materiality."[19] Because the immanent "Spirit is always already at work in creation, animating (and reanimating) bodies,"[20] there is no theological need to insist that the human mind is nonphysical. In any case, while

[14] Ibid., 95.

[15] Smith particularly notes Polkinghorne's penchant for adopting this correlationist model, using a striking choice of words: Polkinghorne wrote that he intended to "find room" for theology in a cosmological, scientific picture. Smith writes that Polkinghorne "concludes that 'the scientific picture' is 'open to' the possibility of the Spirit's presence in the world. But on this picture, it is 'science' that tis the gatekeeper and bouncer…in short, theologians are motivated to accede to naturalism because that is the price of admission for scientific respectability." Ibid., 95. Smith draws from John Polkinghorne, "The Hidden Spirit and the Cosmos," in *The Work of the Spirit: Pneumatology and Pentecostalism*, ed. Michael Welker (Grand Rapids, MI: Eerdmans, 2006).

[16] Smith, *Thinking in Tongues,* 88.

[17] Smith's prioritisation of physicality in his pneumatological perspective may seem surprising, insofar as pentecostal traditions generally are not known for their embrace of material culture. Smith recognises this, and his book *Thinking in Tongues* is as much a critique of "standard" pentecostalism as it is scientistic naturalism. In other words, Smith argues that while pentecostal practice may often veer into a dismissal of the physical world, proper pentecostal theology actually values and prioritises the physical.

[18] Smith, *Thinking in Tongues,* 57.

[19] Ibid., 12.

[20] Smith, "Is the Universe Open for Surprise?," 890.

Smith emphasises the Spirit's immanence in creation, it is important to recognise the implications this has for how we think about physical processes themselves.

One way of understanding Smith's enchanted naturalism is to examine the way his model handles the relationship between the natural world and the supernatural. Smith is quite critical of metaphysical, reductionistic naturalism, and also notes the lack of clarity surrounding articulations of naturalism. As he writes, "the essence of naturalism often is less defined by an articulated conception of nature and more by an opposition to supernaturalism. Naturalism isn't quite sure what it is, but it is absolutely certain what it is *not*…"[21] This simple opposition to supernaturalism, though, does little to explain the actual ontology of nature – and theology has a role to play in articulating this ontology. As Castelo argues, "Rather than making the 'supernatural' peripheral, the task requires putting it at the center, thereby problematizing not only the place of privilege that regnant naturalisms enjoy but also calling into question the way the terms have traditionally been defined."[22] In other words, pneumatology might have something constructive to say about what it is to be properly natural – namely, that participation in the Spirit is integral to nature's ontology. In fact, Smith has concerns about the "super" in supernatural language, as it almost inevitably conjures a dualistic metaphysic in which the supernatural is understood only by what it is not – and vice versa. Moreover, the natural/supernatural binary may be construed in an unhelpful way, suggesting that supernatural realities are alien to, or unnecessary for, nature to be what it is. As he explains his view, "one might say I'm articulating a supernatural materialism. As such, it contests the natural/supernatural distinction."[23] At the same time, though, abandoning "super" language threatens divine transcendence. Indeed, there can be no immanence without transcendence; without transcendence, "immanence" collapses into pantheism. Thus Smith opts for a third way that, "rather than being described as a noninterventionist *super*naturalism, might be better described as an "enchanted naturalism" or an "en-Spirited naturalism."[24] Smith understands this enchanted naturalism to be "unique with respect to all the other [metaphysical models] precisely because it rejects the notion of an 'autonomous', self-sufficient 'world' that runs on its own steam, as it were."[25] Nature is what it is only by virtue of its continued involvement with the

[21] Ibid., 884.
[22] Castelo, *Pneumatology,* 74.
[23] Smith, *Thinking in Tongues*, 99.
[24] Ibid., 96.
[25] Ibid., 97. Again, it is ironic that panentheists don't often pursue the implications of their own metaphysical model. As I have argued, Clayton restricts himself (perhaps unnecessarily, in my view, given the

Spirit. This enchanted naturalism "would refuse to see the natural as 'opposed' to the supernatural (and vice versa). In fact, it would argue that "one can only have a robust 'nature' insofar as it is charged by grace."[26] One could say that "matter *as created* exceeds itself and *is* only insofar as it participates in or is suspended from the transcendent Creator."[27] Smith's naturalism thus insists upon the ontological necessity of nature's involvement with God.[28]

Smith's model is not intended to be a naïve, interventionist supernaturalism, and he suggests that the very language of naturalism and "*super*naturalism is a kind of deistic hangover" that presumes a faulty worldview from the outset.[29] In fact, while Smith is critical of reductionistic naturalism, he is equally critical of the way many theists (including nonreductive naturalists) implicitly assume the same deistic, natural/supernatural dichotomy as do reductionistic naturalists – this will be familiar from Chapter 6.[30] On one hand, interventionist theists affirm that God violates the laws of nature, stepping in from the "outside" to achieve specific purposes. This view, argues Smith, presumes exactly the wrong sort of relationship between God and nature: "The ontological framework that is assumed by interventionist supernaturalism mitigates against the pentecostal experience of the Spirit *as natural*. Part of the genius and uniqueness of pentecostal experience is precisely that one does not see the Spirit's care and activity as exceptions or interruptions of the 'normal' ordering of the universe."[31] On the other hand, noninterventionist theists often attempt to find ways for God to lawfully act within nature's processes; but this model assumes the same God-nature model adopted by deists and interventionists alike. To label something "noninterventionist" is to presume a relationship between God and the world in

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panentheist emphasis on immanence) to a notion of divine action that ironically utilises the very sort of causal joint method that is the hallmark of so many noninterventionist approaches he challenges.

[26] Ibid., 98.

[27] Ibid., 100.

[28] There is one important point to make here. One major concern with pneumatological naturalism will be that it threatens the transcendence of God. Because I have been arguing that a fully natural description of the world would necessarily include divine presence and activity, it is understandable that one might fear that this model renders God as a feature of creation, panentheistic or even pantheistic as a result. This is not the case. The argument here is that a fully natural account of the *created* world will necessarily include the Spirit's activity as part of a full description of that created world. The reverse does not follow; a full account of God, in this model, would not require an explanation of the natural world. This is a one-sided ontology; this naturalism is completely perspectival. I deny the assumed deistic autonomy of the created world, but not the ontological autonomy of God. Contra pantheism, the world is not God; contra panentheism, the world is not a part of God or located within God. Rather, the Spirit is *present to* and *active in* the created world, and the world would not exist apart from the Spirit's continued and continual presence and activity.

[29] Ibid., 87.

[30] For example, Smith writes that "both of these naturalisms (reductionistic and nonreductionistic) seem to be rejecting the *same* 'supernaturalism," what we'll call an 'interventionist supernaturalism. (My enemy's enemy is my friend!) In fact, one might suggest that what defines both of these sorts of naturalisms is *only* their rejection of any supernaturalism." Ibid., 91.

[31] Ibid., 98.

which intervention is a theoretical possibility in the first place – as discussed in previous chapters. As Smith argues, "This model – that God and the world are discrete – is shared by both naturalists who reject such interventions and supernaturalists who claim such interventions. Both basically see nature as an autonomous system…such an assumption rests on a theology of creation that is problematic because it is devoid of any sense of the essential, constitutive, dynamic presence of God the Spirit *in* creation."[32] For Smith, then, the "dynamic presence" of the Spirit in creation is a necessary aspect of the natural world. While pneumatological naturalism recognises that the Spirit is transcendent and uncreated, it is unhelpful to think of nature as existing in ontological opposition to God. An ontological distinction necessarily exists, but the relationship between God and nature is not exactly a binary; pneumatological naturalism thus "eschews the dualistic opposition of the 'natural' and the 'supernatural.'"[33]

Smith's approach to divine action follows from (or is perhaps entailed by) his model of enchanted naturalism, stressing the "the elasticity of nature as always already inhabited by the Spirit."[34] Because Smith rejects both interventionism and noninterventionism as presuming the same deistic God-world model, he is uncomfortable with aligning himself with standard models of divine action. Rather, his model is thoroughly of the theistic naturalist sort: "Because nature is always already inhabited by the Spirit, it also is primed for (and not merely open to) special or unique singularities. These will not be anti-nature, because nature is not a discrete, autonomous entity."[35] That is, just as theistic naturalism more generally can accept seemingly "special" divine action because nature itself is never devoid of God's involvement with all creation, so does Smith's enchanted naturalism see the Spirit's activity as actually enhancing nature's "natural-ness." As noted above, Smith's divine action model does not fit neatly into either interventionist or noninterventionist paradigms, even though the latter posits an "open" universe that would seem to invite divine action in underdetermined areas. Smith is "somewhat cautious about adopting the language of an 'open' creation, because this still seems to presume a picture of nature as basically autonomous."[36] As I have argued throughout this thesis, even the noninterventionist causal joint paradigm "assumes a picture of the world, and of the God-world relation, that cedes autonomy to the natural order akin to Deism."[37] There is thus an ironic

[32] Smith, "Is the Universe Open for Surprise?," 890.
[33] Smith, *Thinking in Tongues,* 99.
[34] Smith, "Is the Universe Open for Surprise?," 881.
[35] Ibid., 892.
[36] Ibid., 890.
[37] Ibid., 890.

connection between noninterventionist theists, interventionist theists, deists, and metaphysical naturalists: all presume that nature's default ontology is one that excludes divine action.

Enchanted naturalism, however, refuses these problematic categories altogether, affirming that the Spirit acts in nature (sometimes dramatically), and that this activity is properly natural. Significantly, Smith does not deny the apparent regularities of natural processes, asserting that "it is important to assert that a pentecostal worldview does not require rejecting a sense of a steady, faithful presence of the Spirit in creation."[38] It is important to note that while Smith seems to loosely adopt the common distinction between general and special divine action (though, as discussed, such a distinction is often discarded by Thomists and panentheistic naturalists such as Knight), he does not strictly distinguish between GDA, SDA, and "miracles."[39] Miracles, for him, seem to refer to events that are intensified, comparatively more dramatic manifestations of God's activity. They are not, in principle, of a different ontological variety than more mundane physical events – precisely because God is involved in all physical processes to begin with, regular or irregular. As Smith explains, "a miracle is not an event that 'breaks' the 'laws' of nature, since nature does not have such a reified character; rather, a miracle is a manifestation of the Spirit's presence that is 'out of the ordinary'; but even the ordinary is a manifestation of the Spirit's presence.'[40] While insisting that nature is always open for "surprises" (i.e., seemingly miraculous divine action), Smith thus still insists that his position should "honor the overwhelming success of science predicated on the predictability of nature's lawlike regularity."[41] Pneumatological naturalism seems to have no problem with simultaneously affirming divine action on one hand, and advocating "a healthy dose of minimal disenchantment and methodological naturalism" on the other."[42] In other words, "the affirmation of the Spirit's dynamic presence in creation is not opposed to…God's steady, sustaining care of the universe along the lines of what seem like 'laws.'"[43] Laws are not rigid, autonomous determinants of reality, but descriptions of the Spirit's more regular activity. Indeed, *all* physical events – lawlike and seemingly miraculous – hold the same ontological status; what was previously considered

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[38] Ibid., 891.

[39] I here put "miracles" in quotes because Smith seems to be using the term rather loosely. Unlike many in the divine action conversation, Smith does not strictly distinguish between GDA, SDA, and miracles. Miracles, for him, seem to refer to events that are experiences are intensified, comparatively more dramatic manifestations of God's activity. They are not, in principle, of a different ontological variety than more mundane physical events – precisely because God is involved in all physical processes to begin with, regular or irregular.

[40] Smith, *Thinking in Tongues,* 105.

[41] Smith, "Is the Universe Open for Surprise?," 890.

[42] Ibid.

[43] Smith, *Thinking in Tongues,* 103.

impersonal general divine action is now construed as "the steady, faithful presence of the Spirit."[44]

For Smith, the key to understanding miracles (or special divine action) is to understand them as intensifications of the same divine presence and activity already inherent in creation. This perspective sees miracles as instances of focussed, mutual participation of creatures in the divine life. In other words, "there are sites and events that exhibit a more *intense* participation," such that "phenomena that might be described as 'miraculous' are not instances of God 'breaking into' the world, as if God were outside it prior to such events; rather, they are instances of a unique and special mode of participation that always already characterizes creation."[45] So then, there are no ontological distinctions between the general providence long affirmed by classical theism and the more seemingly abnormal and rare occurrence of miracles. As Smith argues, "the work of the Spirit is not the provision of new *content*, but instead the gracious granting of 'access.'"[46] Divine action is not to be seen as ontologically distinct from what has always been present and active in the natural world, but a fuller awareness of, access to, and interaction with the Spirit. However, all this this brings us to an important question: How, exactly, does Smith handle the causal joint, especially considering that he wants to affirm methodological naturalism and lawlike natural processes? He himself critiques interventionist models that "punt on questions about the *mechanics* of intervention,"[47] but does pneumatological naturalism fare any better? Smith's own version of pneumatological naturalism – enchanted naturalism – does not directly address the details of how God might interact with physical laws and processes. For that, it is helpful to examine the "pneumatological assist" offered by Amos Yong, as Yong attempts to more directly address this causal joint problem.

[44] Those familiar with the divine action debate may sense that Smith's position here veers into occasionalism. That is, if the laws of nature themselves are God's actions, it may be difficult to get around the charge that God is essentially determining each and every event that occurs. Smith himself does not address this concern, perhaps partially because his work does not function within standard divine action frameworks that employ concepts like "occasionalism." Nevertheless, as will be discussed, one critique of Smith is that his understanding of the laws of nature is utterly unrecognisable to practising scientists.

[45] Smith, *Thinking in Tongues,* 102.

[46] Ibid., 68.

[47] Smith, "Is the Universe Open for Surprise?," 890.

9.3 Amos Yong and a Pneumatological Assist

Pentecostal theologian Amos Yong not only writes on the subjects of science and pneumatology generally, but has also engaged directly with Smith's enchanted naturalism and approach to divine action.[48] Whereas Smith's science-and-religion work focuses on naturalism and the God-nature relationship, Yong more specifically brings pneumatology into conversation with the "mechanics" of divine action. Yong's model thus serves to flesh out the details of the more metaphysical approach taken by Smith, and to address the causal joint problem in a more direct way than does Smith. Specifically, Yong's pneumatological account of divine action understands the laws of nature as constantly evolving "habits" that can only be understood in an eschatological, Trinitarian framework. More specifically, Yong argues that the Christ event had (and has) ontological implications for not only the relationship between God and humans, but between God and the laws of nature. Yong suggests that "the future is non-extrapolatable from the currently known laws of nature...the resurrection gives us good reason to question nomological universality, at least in the far-off future, and grants us insights into God's intentions to restructure (re-create) the laws of nature infected by sin."[49] For Yong, then, divine action occurs by way of the laws of nature, which are themselves evolving and continually shaped by the Spirit in light of the eschatological implications of the incarnation.

Before getting into the specifics of Yong's treatment of the laws of nature, it is helpful to highlight his understanding of the God-nature relationship, vis-à-vis Smith. Like Smith, Yong embraces a pneumatological naturalism (though he himself does not use that term), as evidenced by his insistence that nature be "revisioned in pneumatological terms so that the chasm between transcendence and creation is overcome theologically."[50] To be natural, according to Yong, is to be involved with the Spirit. Also like Smith, this affirmation of nature's participation in the Spirit involves the prioritisation of physical embodiment. Because all of nature is involved with the Spirit, physicality is theologically important: "At the core of the Pentecostal experience is a

[48] See Amos Yong, "Radically Orthodox, Reformed, and Pentecostal: Rethinking the Intersection of Post/Modernity and the Religions in Conversation with James K. A. Smith," *Journal of Pentecostal Theology* 15, no. 2 (2007): 233-50.

[49] Amos Yong, "The Spirit at Work in the World: A Pentecostal-Charismatic Perspective on the Divine Action Project," *Theology and Science* 7, no. 2 (2009): 131.

[50] Amos Yong, "Radically Orthodox, Reformed, and Pentecostal," 247.

palpable, tangible, and kinesthetic encounter with the living God."[51] Yong suggests that increased attention to "the Pentecost narrative of the Spirit's outpouring on 'all flesh' (Acts 2.17a)" provides pneumatological naturalism with "additional biblical and theological resources for the kind of participatory or creational ontology advocated by Smith."[52] An oversimplified way of distinguishing between Smith and Yong (at least in regards to divine action) is to highlight Smith's reliance on participatory ontology (as understood in Radical Orthodoxy), and Yong's dependence on biblical narratives. In other words, Smith and Yong focus on different pneumatological emphases, but in such a way that they complement one another well.

At the heart of Yong's divine action theology is a prioritisation of Christological eschatology. He argues that "the life, ministry, death, and resurrection of Jesus are pneumatologically constituted events that signify the coming era, proleptically announcing and providing a foretaste, in the past (and present), of the eschatological future of God."[53] The incarnation, then, should be seen as having universal implications not only spiritually, but for the natural world itself. All discussion of divine action and the laws of nature must, in a pneumatological view, be held against the backdrop of the incarnation's "pneumatologically constituted events," which fundamentally change the structure of nature. Yong argues that "God's action in a scientific and lawful world can be profitably illuminated when conceived in terms of the Holy Spirit, and that this suggests that divine activity occurs, in a sense, 'from the future,' especially in anticipation of the coming kingdom."[54] Rather than viewing seemingly miraculous events as interventions or aberrations, these "(miraculous) 'interventions' in the world's processes should now be reformulated in both pneumatological and eschatological perspectives."[55] The incarnation and Pentecost together, then, become the pivotal events that substantially alter nature. Because Yong insists that nature itself is always involved with the Spirit, he can further assert that nature is substantially changing and evolving in response to the Spirit. Instances of divine action, then, become "proleptic anticipations of the world to come,"[56] making "present the risen Christ and the hidden God" and providing "a foretaste of the transfiguration of the created order."[57] Essentially, Yong's

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[51] Amos Yong, *The Spirit of Creation: Modern Science and Divine Action in the Pentecostal-Charismatic Imagination*, Pentecostal Manifestos (Grand Rapids, MI: Eerdmans, 2011), 74.

[52] Yong, ""Radically Orthodox, Reformed, and Pentecostal," 247.

[53] Yong, *The Spirit of Creation,* 90.

[54] Ibid., 102.

[55] Ibid., 90.

[56] Ibid., 93.

[57] Ibid., 94.

pneumatological naturalism asserts that eschatological realities allow for the evolution of the laws of nature toward eschatological ends, so that specific divine actions result.

Yong's treatment of the laws of nature requires more discussion, not least because his model insists on a complete revision of how the laws of nature are generally understood. As discussed in Chapter 2, interpretations of the laws of nature can be categorised as prescriptive, descriptive, and approximationist. Yong's pneumatological model would seem to be incongruent with a prescriptive view of the laws of nature, as his model suggests that the laws of nature evolve and are responsive not only to divine action, but also to human response to God (more on this below).[58] In fact, Yong's work echoes my argument in Chapter 2 that many theists (particularly interventionists) unwittingly presume a prescriptive, view of the laws of nature: "Supernaturalism actually requires a fairly robust view of nature governed by physical laws to begin with since without this all-encompassing framework, divine signs, wonders, and miracles would not stand out from such laws."[59] Neither is Yong's model a good fit with an approximationist view, as such a view assumes an in-principle set of static laws, though our limited knowledge allows only for partial awareness of these laws. Instead, it seems that Yong's model is working with a descriptive view of the laws of nature (Yong himself calls his position a "regularist" one), in which "the laws of nature are statements that *describe* what usually or regularly happens in the world."[60] For Yong, then, the laws of nature are not necessary determinants of what happens in nature, but are identifiable patterns that describe the way physical processes usually occur – they are habitual tendencies, but not ontologically static.

Yong's descriptive view of the laws of nature, however, is only one aspect of his divine action model. Perhaps more importantly, Yong insists that the laws of nature "can now be understood as habitual, dynamic, and general but nevertheless real tendencies through which the Holy Spirit invites and empowers free creatures to inhabit the eschatological presence of God."[61] In other words, while the laws are indeed "habitual tendencies," they evolve and develop proleptically in

[58] However, because Yong sees the laws of nature as evolving, it is possible to understand the laws as prescriptive in a sense. That is, one could say that the laws of nature are binding at any given time, but that those binding laws change over time. This is not unlike recognising that a nation's laws are binding as a whole, but are also subject to amendment and evolution over time. In any case, Yong's interpretation of the laws of nature may not necessitate the descriptive label in quite the way he assumes.

[59] Ibid., 76.

[60] Ibid., 107.

[61] Ibid., 129.

light of the eschatological realities instantiated by Christ.[62] Interestingly, Yong draws on the work of cosmologist George F.R. Ellis in his discussion of the laws of nature – this is notable given Ellis' important contributions to the DAP. Rather than assuming, like many of his DAP collaborators, a prescriptive view of the laws of nature, Ellis' work seems to agree with Yong's – namely, that the life, death, and resurrection of Christ might be seen as a sort of eschatological prototype, "the first instance of the kind of transformation that awaits the entire cosmos."[63] In this view, the laws of nature themselves are responsive to spiritual realities; divine action is never interventionist, precisely because the laws of nature do not have independent, static authority apart from divine influence in the first place. For Yong, the laws of nature are "sufficiently flexible so that they can be miraculously redeemed to usher in the patterns and habits of the coming world."[64] In a sense, one might well posit that physical processes and the laws of nature themselves are, in some sense, spiritual – or, at least, never independent of spiritual realities. As philosopher Keith Ward suggests, "It is better to construe miracles as such transformations of the physical to disclose its spiritual foundation and goal than to think of them as violations of inflexible and purposeless laws of nature."[65] Instead, a pneumatological naturalism insists that the laws of nature are directed toward eschatological ends, and that this is somehow proper to their ontology.

It would seem that for Yong's pneumatological naturalism, the causal joint should be located in the laws of nature themselves – given the discussion above.[66] That being said, Yong suggests that "it is in principle impossible on scientific terms to conclusively identify such a causal joint."[67] Indeed, pneumatological naturalism insists that "the workings of the Spirit of God are identifiable or discernible only through the eyes of faith…in anticipation of the kingdom to

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[62] Ibid., 124.

[63] George Ellis, "Ordinary and Extraordinary Divine Action," in *Philosophy, Science and Divine Action*, ed. F. LeRon Shults, Nancey C. Murphy, and Robert J. Russell, Philosophical Studies in Science and Religion, vol. 1 (Leiden, Netherlands: Brill, 2009), 338.

[64] Yong, *The Spirit of Creation,* 131.

[65] Keith Ward, "God as a Principle of Cosmological Explanation," in *Physics, Philosophy, and Theology: A Common Quest for Understanding*, ed. Robert John Russell, William R. Stoeger, S. J., and George V. Coyne, S. J. (Vatican City State: Vatican Observatory, 1988), 260-261.

[66] However, it also worth noting that, at times, Yong suggests that God acts through information input: "There is room for thinking about the Spirit's role of 'inputting' information into the causal fabric of the world…we may not be able to identify the *how* of the Spirit's (energetic?) action in the world…But we will still be able to specify, in faith, *that* the Spirit's action has made such and such a difference in the world (at least in terms of the input of information), and thus can affirm divine intervention in this eschatological sense." It is unclear how this this idea connects to Yong's more sustained treatment of the laws of nature as a sort of causal joint. Yong, *The Spirit of Creation,* 98.

[67] Ibid.

come."[68] Not only this, but even seemingly miraculous events are in principle susceptible to scientific explanation. Yong insists that "even scientifically verified healings…however statistically improbable, are not arguments for divine action. Science cannot make those claims."[69] This is a significant assertion, and one that firmly locates Yong in the theistic naturalism camp. That is, Yong effectively argues for a compatibilist divine action model in which the laws of nature themselves are ever and always amenable to the Spirit's action – thus, any instance of divine action would presumably have an explanation in terms of those laws of nature. Indeed, "it is the work of the Spirit to remain 'hidden' amidst the natural processes of the world, all the while shaping the evolutionary history of the world according to the final intentions of God."[70] Divine action, in this view, is identifiable only theologically and in faith, and never through scientific methodology. Rather, this "pneumatological logic" would recognise divine actions as "actions of the Spirit that are proleptic anticipations of the world to come…the proleptic aspect of the charismatic presence and activity of the Spirit points not to some future understood in linear terms as being ahead of us, but to the qualitative in-breaking of God's 'future' into 'present' human (and natural) history."[71] In short: the Spirit and incarnation make an ontological difference to the laws of nature precisely because all of nature itself participates in God, but this ontological difference is recognisable only through eyes of faith.

9.4 Pneumatological Divine Action and the Mind

For both Smith and Yong, pneumatological naturalism relies heavily on the idea that all nature participates in and with God. Unlike Thomistic double agency, in which all events are wholly caused by both primary and secondary causes simultaneously, pneumatological naturalism emphasises the dynamic, responsive relationship between God and nature, which results in varying intensities of experienced divine action. As Smith asserts, "While all that is participates in God through the Spirit, there are sites and events that exhibit a more *intense* participation,"[72] and "this does not mean that all participates *in the same way* or *to the same degree*."[73] Yong similarly sees seemingly miraculous events as intensifications of the Spirit's universal presence: "We can think

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[68] Amos Yong, "How Does God Do What God Does? Pentecostal-Charismatic Perspectives on Divine Action in Dialogue with Modern Science," in *Science and the Spirit: A Pentecostal Engagement with the Sciences*, ed. James K. A. Smith and Amos Yong (Bloomington, IN: Indiana University Press, 2010), 63.

[69] Yong, *The Spirit of Creation,* 100.

[70] Ibid., 135.

[71] Yong, "The Spirit at Work in the World," 133.

[72] Smith, *Thinking in Tongues,* 102.

[73] James K. A. Smith, "The Spirit, Religions, and the World as Sacrament: A Response to Amos Yong's Pneumatological Assist," *Journal of Pentecostal Theology* 15, no. 2 (2007): 256.

of these special, miraculous manifestations of the Spirit's presence in creation as more intense instances of the Spirit in creation, or as 'sped-up' modes of the spirit's more regular presences."[74] Moreover, this model affirms that nature itself has a part to play in the expression of divine action; creaturely response to God is an important part of the Spirit's instantiation of eschatological realities. Divine action should not be thought of as God stepping in from the outside to do something *to* creation, but rather God working *with* creation in a dynamic manner; creaturely agency is a vital component of divine purposes being effected in the natural world. As Smith further argues, "It is structurally the case that all that exists participates in the divine, but not all that exists is properly ordered or directed *to* the divine; to participate *properly* in the Creator is to also be directed to the Creator."[75] Divine action, then, is not unilateral in the way often conceived by noninterventionist models, but an outcome of divine-nature interaction. In keeping with the larger themes of theistic naturalism, Smith also suggests that human participation in God "actually represent[s] a restoration of what it means to be properly human, not some sense of being 'super'-human."[76] Participation in the Spirit is not theologically abnormal, but is instead indicative of humanity being more or less properly natural. Yong goes so far as to say that "in the vast majority of cases involving the charisms of the Spirit, human agency is involved. Thus SDA must not only be compatible with but also preserve personal human agency in all of its integrity."[77] Note the difference between this approach and, particularly, standard conceptions of double agency. Whereas double agency is generally thought to affirm the fully causal agency of both God and creatures, this pneumatological, participatory model emphasises response and dynamism. It is not so much that God and secondary causes are simultaneously causing any specific action, but that secondary causes respond to God in varying degrees, to varying effects. In other words, because pneumatological naturalism reframes physicality itself as being somehow spiritual and always in dynamic relationship with the Spirit, physical processes (or secondary causes) can somehow respond to the eschatological "call" or "vision" that is held out to them. Whereas double agency insists that God is fully and sufficiently causal in all natural events, pneumatological naturalism would see the relationship between God and nature as more dynamic and collaborative – creaturely response is necessary for divine purposes to be enacted. As Yong argues, "God's covenants are never deterministic grids…Rather, they constitute God's general, albeit eschatological, intentions, suggested to human creatures, yet whose final shape and realization depend, at least in part, on creaturely response."[78] Divine action, then, is less about

[74] Smith, *Thinking in Tongues,* 104. Also see C. S. Lewis, *Miracles* (New York: Macmillan, 1947), 132-42.
[75] Smith, "The Spirit, Religions, and the World as Sacrament," 256.
[76] Ibid., 257.
[77] Yong, "The Spirit at Work in the World," 133.
[78] Yong, *The Spirit of Creation,* 128.

God doing something to or through nature to achieve a specific result, and more about creaturely response to the Spirit.

Pneumatological naturalism thus – and perhaps ironically, in the context of this thesis – privileges the human mind in its emphasis on human participation in the Spirit and the Spirit's activity. As theologian Thomas J. Oord argues, "creaturely response plays a central role in determining how effective God is in the world."[79] Insofar as human mind-bodies possess relatively more creaturely freedom, imagination, and the ability to respond to God in complex ways than do less complex organisms – to that extent the human mind may be more receptive to divine action, or more able to participate with the Spirit in bringing divine action about. George Ellis goes even further, suggesting:

> Within the laws governing the behavior of matter, there is hidden another domain of response of matter to life than usually encountered: matter might respond directly to God-centered minds through laws of causal behavior, or there may be domains of response of matter encompassed in physical laws, but they are seldom tested because such God-centered minds are so seldom encountered…[wherein] the right 'spiritual conditions are fulfilled.'[80]

While Ellis' suggestion might seem speculative, it is interesting to note how seriously he takes the idea of matter's participation in God, and of the importance of "God-centered" minds in effecting divine action. Yong seems to agree with Ellis here, explaining that "Ellis is striving for language that is ultimately comprehensible only within an explicitly pneumatological frame of reference. The right 'spiritual conditions' were fulfilled first and foremost, but not only, in the life of Jesus Christ, the one anointed by the Holy Spirit."[81] In other words, Yong and Ellis seem to be contextualising human minds in an eschatological framework, such that the human mind-brain can participate in the Spirit's presence and activity in such a way that real physical change is effected. Note that because pneumatological naturalism embraces embodiment and physicality, the naturalised (and even physicalised) mind would not be any less spiritual than the soul (as traditionally conceived). In other words, because the entire physical world participates with the Spirit to varying degrees, the physicalised mind-brain (being immensely complex and possessive of relatively more freedom than other creatures) may be relatively more able to both experience divine action, and to influence the efficacy of divine activity.

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[79] Thomas J. Oord, "The Divine Spirit as Causal and Personal," *Zygon* 48, no. 2 (2013): 475.
[80] Ellis, "Ordinary and Extraordinary Divine Action," 337-38.
[81] Yong, *The Spirit of Creation,* 92.

So then, pneumatological naturalism may in fact privilege the mind in regards to divine action – but for very different reasons than those argued by Clayton. Clayton restricts divine action to the emergent mind precisely because he finds it to be the only ontologically nonphysical sphere in which divine action could occur without violating natural laws. And yet, as discussed, this argument essentially boils down to a causal joint approach that presumes the deistic God-world model that has been challenged throughout this thesis. In pneumatological naturalism, however, divine actions are conceived as variously intense manifestations of the Spirit who is always present to begin with. The intensity of these manifestations may be largely influenced by the attention, response, and disposition of creatures participating in and with the Spirit. While this is largely speculative at this point, one could imagine that the brain's immense complexity would enable humans to naturally respond to and cooperate with God in a more intense manner than would, for example, a pine tree.[82] In prayer, worship, liturgy, teaching, meditation, appreciation of the natural world, etc., theists have long reported felt experiences of divine presence and activity; pneumatological naturalism might provide a theological rationale for this. While this conjecture leaves much to be developed, it is at least interesting to note the congruence between a pneumatological naturalism, the mind-brain, and intensifications of divine action. The point here is that consciousness may well be a somewhat special focus of divine action, though not because the mind exists in an ontologically distinct category from other natural phenomena. Rather, the remarkable complexity of the human mind-brain may simply allow for a comparatively enhanced ability to participate in the Spirit and be affected by God in a way that may seem miraculous. Crucially, however, this model would not limit divine action to the human mind (as argued by Clayton), and presumably all aspects of nature (sentient or otherwise) are capable of responding to and participating in the Spirit in a manner appropriate to their respective abilities. Rather, pneumatological naturalism would simply suggest that given the mind-brain's characteristics, one should not be surprised if the mind-brain were a locus of particularly intense divine action.

[82] This is not to say that the whole of creation is not able to fully respond to God in various ways appropriate to the physical makeup and complexity determining each organism's abilities.

9.5 Discussion

Pneumatological naturalism as described here has much to commend it as a version of theistic naturalism, in my view. This model shares with Thomism and panentheistic naturalism a commitment to the idea that all of nature is inherently involved with God – to be natural is to participate in God's active, immanent presence. Like panentheistic naturalism, pneumatological naturalism holds a somewhat progressive, malleable understanding of what it is to be natural: true naturalness is no longer a static ontological category that excludes divine presence or activity, but an eschatological state in which nature can progressively participate. As one participates more or less in the Spirit, one becomes more or less natural – "natural" is defined eschatologically, as a state defined not only by currently-understood physical laws, but also by nature's participation in and with the Spirit. Thus, this approach embraces an explicitly theological framework for naturalism. Like all theistic naturalisms, then, pneumatological naturalism portrays divine activity not as something extraneous to nature, as if God steps into the natural order to act, but as something almost to be expected as nature participates in and with God. Where pneumatological naturalism differs from panentheistic naturalism is in its reliance on pneumatology – rather than on panentheism or fixed instructions. While Yong and Smith do seem to understand God as working through (flexible) laws of nature, this is portrayed as occurring temporally and responsively, as creatures orient themselves towards or away from God. Similarly, pneumatological naturalism does not rely on panentheism, for the Spirit's immanence in the world (including the Spirit's influence on the laws of nature) is seen to be doing the same metaphysical "heavy lifting" as does panentheism. In other words, pneumatological naturalists insist that all of nature is inherently involved with the Spirit at all times, because of the Spirit's immanence. Thus, there is no need to speak of God operating on the world from the "outside," as this would presume an insufficient God-world model. If, then, one (for whatever reason) takes issue with panentheism, pneumatological naturalism's participatory ontology claims to offer an alternative. Moreover, because of this model's emphasis on the intimate relationship between God and natural processes, it is potentially resistant to "God of the gaps" charges. In other words, pneumatological naturalism is not really a causal joint model (unless, that is, one views the laws of nature themselves as a causal joint) – it does not seek out poorly understood or seemingly underdetermined areas of the natural world in which God is "allowed" to act. Rather, God is always involved with, and active in, natural processes, altering the laws of nature themselves toward eschatological ends. Rather than relying on science to identify where and how divine action occurs, pneumatological naturalism (and indeed, all theistic naturalisms as I define them here) suggests itself as a fully compatibilist

approach – divine action is not to be identified scientifically, but only theologically and through eyes of faith.

As a version of theistic naturalism, then, the pneumatological model has much to commend it. However, there are still significant challenges to this approach – some specific to pneumatological naturalism, and others applicable to theistic naturalism more broadly. One possible critique that is particular to the pneumatological model has to do with how the model conceives of the laws of nature. Specifically, this model posits the laws of nature not as scientifically identifiable determinants of physical events, but as habitual-yet-flexible patterns that are responsible to the Spirit's activity. In short: the Spirit actually alters the laws of nature – resulting in seemingly miraculous divine action, but not in such a way that it can be identified as such through scientific methodology. Even the most dramatic experience of divine action should be expected to have a wholly lawful explanation, with an underlying physical cause that is in principle explicable in scientific terminology. The problem with this, quite simply, is that few in the scientific community would take seriously such an understanding of the laws of nature. After all, it at least appears that scientists are continually discovering law-governed processes that are reliable, testable, and explicable in universally-recognised scientific and mathematical "languages." For a theologian to step into such a scenario and claim that a particularly extraordinary event was caused because the Spirit literally altered a law of nature – this would seem preposterous to many empirically-minded individuals. One could not quite claim that such a model is interventionist – because pneumatological naturalism denies the God-nature relationship implied by both interventionism and noninterventionism – but it is quite unlikely that scientists themselves would feel comfortable allowing something so seemingly empirical as a law of nature to be revisioned as malleable and changeable.

Indeed, it is not quite clear what it would even mean for God to alter the laws of nature. Saying that God simply changes the laws of nature, one might argue, does not absolve one of the difficulties surrounding divine action, for the laws of nature might not be the metaphysical constructs that this model seems to assume – they may be inextricably bound up with matter itself.[83] Of course, representatives of pneumatological naturalism are aware of this problem. Smith himself is well aware of the dangers in asserting a theological priority in discussions about

[83] See Cartwright, *The Dappled World.*

science or divine action. He writes that such a contribution "to the science/theology dialogue would be inevitably gauche precisely because it would transgress an unspoken taboo in the parlor of the science/theology conversation, namely, that one not question the 'science' side of the conversation, and in particular, one not ruin the party by calling into question the governing naturalistic assumptions of science."[84] Even so, Smith and Yong would argue, theologians have something positive and constructive to say about the metaphysical frameworks applied to concepts like the laws of nature. They would insist that nature *just is* involved with the Spirit, though they flesh this out a bit differently: while Smith can affirm divine action by prioritising the dynamic, responsive participation of all nature in the Spirit, Yong more explicitly posits that the malleability of the laws of nature is something of an eschatological brute fact – though one that can be acknowledged only from a faith perspective. This being said, one could argue that Smith and Yong each face different challenges to their divine action models. That is, on the one hand, Smith claims that all creatures are more or less oriented to God, and divine action occurs through the active participation of physical processes in the Spirit. However, Smith does not offer a satisfying response to the causal joint problem, and readers are left to puzzle over how, exactly, such an account envisions the mechanics of this divine-nature participation taking place (after all, God and nature are still affirmed as being ontologically distinct). On the other hand, Yong's model treats the laws of nature as a causal joint of sorts, though Yong might not admit this to be the case. The problem with this approach, however, is that it threatens to veer into occasionalism: if God alters the laws of nature themselves, one might argue that God is actually determining all physical events (insofar as all physical events are subject to the laws of nature).

More broadly, pneumatological naturalism faces the same challenges as do other versions of theistic naturalism. Namely, the model is self-admittedly unfalsifiable and untestable. It is theoretically able to handle all new and existing scientific theories and data, incorporating them into a larger, thicker description of the natural world that always and already participates in the immanent God – but theistic naturalism is wholly immune to scientific critique. While this may well be a perfectly acceptable, necessary, and even obvious feature of reality (i.e., that scientific methodologies cannot prove the reality of an all-encompassing divinity or of divine action in and through the laws of nature), it also has the potential to frustrate honest dialogue between the scientific and theological communities. Put differently, science itself might never lead one to embrace a theistic naturalism, with its emphasis on the relationship between God and physical

[84] Smith, *Thinking in Tongues,* 87.

processes. These are models that are likely only to be embraced for theological reasons. This may seem like an advantage (insofar as scientific discoveries cannot disprove the model in the way that has happened to causal joint theories), but it is also a liability. While the theistic naturalism's strictly theological nature renders it expansive and independent of any particular causal joint, this feature also divorces the approach from any sort of robust testing or evaluation. Indeed, insofar as theistic naturalisms are compatibilist (affirming that both theological and scientific explanations for an event can simultaneously be true), one might well suggest that theological accounts of scientifically explainable phenomena are actually redundant. That is, given a seemingly sufficient physical account of a particular event, how and why is one justified in attributing that same event to an unseen, untestable divine presence? Yong admits this tension, writing that "this is a specifically theological form of divine action and, hence, of explanation…Each level of explanation is appropriate as far as it goes."[85] In any case, the entire science-and-religion field is presumably devoted to exploring connections between science and religion; it can thus seem frustrating if the most one can hope for is a theological overlay to scientific descriptions of the natural world. A broad theistic naturalism, in my view, is at least a helpful conceptual tool and metaphysical model for dealing with dual commitments to scientific knowledge and theological commitments. It will not, however, recommend itself to those without a preexisting theological commitment.

9.6 Conclusion

In Part One of this thesis, I examined and critiqued the standard model of divine action, which has been incompatibilist, noninterventionist, and presumptuous of prescriptive laws of nature. In order to move beyond broad, philosophical debates about divine action, I particularly examined Philip Clayton's "divine action in the emergent mind" thesis. While recognising the seeming importance of the mind as a locus of divine action, I critiqued Clayton's argument that the emergent mind is nonphysical and uniquely open to divine action. Clayton's causal joint approach, I suggested, is both theologically insufficient and scientifically implausible. Moreover, there are both philosophical and scientific reasons to at least consider the possibility that the mind is wholly natural and even physical. Throughout Part Two of this thesis, I have been exploring theological alternatives to the standard causal joint model of divine action, with particular reference to divine action in the mind – namely, these theological alternatives render

[85] Yong, "How Does God Do What God Does?," 61.

the Hard Problem theologically irrelevant. This exploration has focused on variations of theistic naturalism, which share a commitment to compatibilist divine action – and reject the metaphysical assumptions undergirding noninterventionist, incompatibilist models – precisely because all nature is seen as being necessarily and ontologically involved with God's active presence *at all times*. My basic argument has been that theistic naturalism, in some form, offers a much more theologically robust and scientifically acceptable approach than that offered by, for example, many of the causal joint theories put forth in the DAP. I agree with Smith that, quite often, "the natural sciences are taken to be objective arbiters of the 'way things really are,' and theology (and religious communities) are expected to modify and conform (correlate) their beliefs and practices to the dispensations of the scientific magisterium…In short, theologians are motivated to accede to naturalism because that is the price of admission for scientific respectability."[86] The question is, then, how much of this scientific oversight is necessary, and how much should be contested as lying outside the bounds of science proper? After highlighting the philosophical options surrounding naturalism, I examined three related (though distinct) versions of theistic naturalism: Thomism, panentheistic naturalism, and pneumatological naturalism. Each of these approaches has much to commend it, and I have highlighted their relative strengths and weaknesses throughout these last several chapters. Thomism, it seems, offers the paradigmatic, classic example of theistic naturalism, stressing the inseparability of natural processes from divine activity. The Thomistic account of divine action, however, may be lacking insofar as it is reliant on a paradoxical account of double agency. Christopher Knight's panentheistic naturalism, on the other hand, offers a theistic naturalism that addresses the causal joint problem by framing divine actions as atemporal fixed instructions. This Orthodox model, Knight argues, is not deistic, precisely because an Eastern panentheistic metaphysic posits a God-nature relationship that is marked by immanence and an inseparability between God and nature. Panentheistic naturalism, however, can be critiqued on the basis of its God-nature model; some find that panentheism collapses into pantheism upon close scrutiny. Pneumatological naturalism, as articulated by James K. A. Smith and Amos Yong, respectively, is able to avoid panentheism by emphasising the Spirit's immanent, temporally active presence in all of nature at all times. That is, the pneumatological model suggests that traditional theism does, after all, have the theological resources (e.g., the Spirit) to do the same metaphysical work as panentheism. The pneumatological model also offers a privileged account of the human mind, insofar as its participatory ontology allows for varying intensities of divine action as humans actively respond to, and orient themselves toward, God. However, pneumatological naturalism faces challenges as

[86] Smith, "Is the Universe Open for Surprise?," 885.

well, and these are largely shared by all theistic naturalisms: specifically, these models are apparently wholly immune to scientific critique, and lack any real traction with the various sciences.

While these three versions of theistic naturalism are obviously diverse and unique to their historical, cultural, and theological contexts, my suggestion has been that their commonalities are more significant than their differences. At the heart of theistic naturalism is a three-fold commitment involving 1) a denial that nature is, by default, an autonomous, self-sufficient entity apart from divine presence and action, 2) an affirmation that all of nature is inherently involved with God at all times – though perhaps in varying intensities and with varying physical effects, and 3) an affirmation that physicality itself is to be affirmed, rather than feared (in the mind-brain and elsewhere), precisely because the physical itself participates in God. This shared core of broad theistic naturalism, I suggest, may offer a theologically robust and scientifically compatible model of divine action. Theistic naturalism is particularly appealing in the context of the first half of this thesis, insofar as this overall model may prioritise human consciousness as a locus of divine-human interaction after all – though for very different reasons than those posited by Clayton. Future work in this area will face the challenge of articulating a model of divine action that is theologically robust, while still engaging with the sciences in a meaningful way. Indeed, the lack of real engagement between theistic naturalism and the sciences is the most problematic aspect of this otherwise promising theological trend. As science-and-religion goes forward, important questions will need to be asked, such as: Does theistic naturalism solve the causal joint problem? What does it mean to be natural? What is the nature of the physical itself? What role should scientific knowledge play in divine action theologies? Given the possible physicalisation of the mind, how might divine action theology constructively (rather than defensively) engage with the various brain-related sciences? While I have begun exploring these questions in this thesis, divine action in the mind remains something of a frontier in science-and-religion, and deserves continued, sustained research.

Chapter 10

Conclusion

My overarching goal in this thesis has been to critique the causal joint model of divine action that privileges the mind as uniquely nonphysical, and to suggest that the theological turn's theistic naturalisms offer helpful theological frameworks affirming divine action in embodied – perhaps physical – human consciousness. This project has thus been necessarily multifaceted, involving a sustained critique of the standard divine action model, an analysis of the philosophy and science of the mind, and an exploration of various forms of theistic naturalism. In particular, the two research questions framing this project have been:

1) Regarding the causal joint model that locates divine action in the nonphysical mind: To what extent is this model scientifically plausible and theologically adequate?
2) To what extent does theistic naturalism instead offer a theologically robust account of divine action in the naturalised mind?

In response to the first question, Part One of this thesis argued that causal joint models in general, and particularly Philip Clayton's privileged use of the mind in his divine action theory, are scientifically implausible and theologically inadequate. Chapter 2 began by highlighting the metaphysical presuppositions forming the metaphysical basis of standard causal joint models, and argued that these presuppositions are neither germane nor necessary for a theistic worldview. Chapter 2 also examined the test case of quantum divine action theories, demonstrating the scientific insufficiencies that become evident when causal joint theories are closely examined. Chapter 3 moved into a discussion of mind-based causal joint approaches, specifically analysing Philip Clayton's emergent mind thesis. I argued in this chapter that Clayton's model is not only unwarranted by scientific emergence theories themselves, but – theologically speaking – it is also unduly restrictive on divine agency, at least insofar as it limits divine action to the human mind. In Chapter 4, I examined the philosophy of mind more generally, focussing on arguments for and against the so-called "Hard Problem of Consciousness." My argument in Chapter 4 was that while prominent formulations of the Hard Problem carry a certain intuitive force, they are overly reliant on an appeal to ignorance, and

methodologically suspect insofar as they prematurely delimit the explanatory power of the natural sciences. Chapter 5 is a logical extension of Chapter 4, highlighting several physicalist theories of consciousness that offer plausible alternatives to the idea that the mind is inherently nonphysical and immune to scientific explanation. Thus, Part One as a whole offers a sustained critique of standard approaches to divine action, and a rigorous scientific and philosophical analysis of the consciousness debate. Via this sustained analysis, it became clear that theological appropriations of the mind as a uniquely nonphysical causal joint are scientifically and philosophically unwarranted, and that we have every reason to affirm the "in principle" possibility of a physical explanation for consciousness.

In response to the second research question, Part Two of this thesis offered an analysis and exploration of naturalism and, more specifically, particular versions of theistic naturalism that purport to offer models of divine action in the naturalised mind that are both theologically robust and not incompatible with scientific knowledge. I argued that while the standard causal joint model is heavily reliant on a noninterventionist, incompatibilist framework that presumes a prescriptive interpretation of the laws of nature, theistic naturalisms offer divine action models that assume a more theologically robust account of the God-nature relationship and, indeed, the ontology of nature itself. Chapter 6 explored the complexities surrounding the terminology and concepts involved with the question of what, exactly, it means to be properly natural. This chapter argued that standard divine action theories implicitly adopt theologically problematic versions of naturalism, presuming an autonomous natural world that excludes divine involvement in physical processes. Indeed, divine action theorists often (perhaps unwittingly) adopt scientistic versions of naturalism in an effort to be scientifically credible, even though more expansive versions of naturalism are available – theistic or otherwise.

After this philosophical argument, Chapters 7-9 present three distinct versions of theistic naturalism that go beyond philosophical abstractions, offering theologically specific frameworks that insist upon the normalisation of divine action. Chapter 7 explores Thomistic divine action, as it is something of a "gold standard" among theistic naturalisms. The Thomistic model emphasises the distinction between primary and secondary causes; because God as primary cause is immanent, and because nature always exists in intimate connection to, and dependence on, God, both God and natural processes are fully responsible for all natural events – this is the

doctrine of double agency. I argued that while Thomism offers the classic compatibilist formulation of divine action in the natural world, its particular emphasis on double agency is potentially incoherent and paradoxical. However, I suggested that the *sort* of thing Thomism achieves should be the aim of all theistic naturalisms: offering an account of God's ever-present, ever-active involvement with all of nature at all times. Chapter 8 then examined the panentheistic naturalism of Christopher Knight, which uses an Eastern Orthodox panentheistic framework to revision what is generally understood as properly "natural." Knight argues that God's action in the world serves to transform the world from a sort of sub-nature to true nature; an account of divine immanence (including divine action) is actually required for a full understanding of nature, and for nature to be what it is intended to be. Knight critiques the common distinction between GDA, SDA, and miracles, arguing that all divine action can be understood as manifestations of atemporal laws, or "fixed instructions," which are specific and responsive enough to account for all instances of divine action. Finally, Chapter 9 explored pneumatological naturalisms, which insist that creaturely involvement with the immanent, ever-present, ever-active Spirit is inherent to nature. James K. A. Smith, for example, argues that all of nature participates in the Spirit at all times, but with varying intensities. This pneumatological participation model performs the same metaphysical function as does Knight's panentheism, normalising divine action by emphasising the fundamental, ontological connection between nature and God. While Smith himself does not offer a specific causal joint, pneumatologist Amos Yong argues that the Spirit actually changes the laws of nature within an eschatological framework, such that all instances of divine action are evidence of the Spirit changing nature into its eschatological reality.

One important aspect of the pneumatological approach is that it accounts for varying intensities of experienced divine action. That is, because of its participatory ontology, pneumatological naturalism acknowledges that certain sites and aspects of the natural world will experience more intense manifestations of divine action, depending on the ability and will of the relevant creatures to respond to the Spirit. Thus, pneumatological naturalism may, in fact, privilege the mind in its account of divine action, insofar as the human mind is particularly (though not uniquely) complex, will-full, relational, and volitional. In other words, given the immense complexity and power of the mind-brain, it might well be the case that the human mind is an extremely important locus of divine action. However, the human mind might not be ontologically different in kind from the rest of creation (as argued by Clayton), but could instead simply be a more complex, responsive, and relational feature of the natural world than are other physical

processes. The mind, then, could be seen as of a piece with the rest of the physical world, but also acknowledged as a site of particular importance for God-nature interaction. This idea – that the mind is a particularly intense locus of divine action because of its remarkable complexity and relational and volitional capabilities – is one worth exploring further. Indeed, the need for more research on the theological import of the physicalised mind is a clearly perceived need arising from this thesis. Similarly, the pneumatological model's focus on varying intensities of divine action raises fascinating questions about divine action elsewhere in nature. How might other conscious animals respond to, and participate in, God? Does God act in animal mind-brains? How do non-sentient beings respond to God or even "experience" God? These are the sorts of unanswered questions arising from a participatory, pneumatological account of divine action.

While the three versions of theistic naturalism surveyed in this thesis are admittedly distinct, I argued that they share several key commonalities in their approach to divine action. First, Thomism, panentheistic naturalism, and pneumatological naturalism all reject noninterventionist divine action – not because they affirm interventionism, but because they reject the deistic presuppositions presumed by noninterventionist models. Second, they can all be considered compatibilist models, as they do not consider divine action to be in competition with the laws of nature. Each version of theistic naturalism conceptualises this differently: Thomists use double agency to affirm the full causality of both God and natural processes in all events, Knight's panentheistic naturalism frames divine actions themselves as instantiated in actual laws of nature, and pneumatological naturalists either 1) see natural processes as participating in and with the Spirit to achieve a specific outcome, or 2) affirm that the laws of nature themselves are susceptible to alteration within an eschatological framework. Finally, the most important affirmation shared in common by theistic naturalists is that nature is always and everywhere involved with the active presence of the immanent God. To be natural is to be involved with God; the standard model's presumption of an autonomous natural world is theologically inadequate. For the theistic naturalist, nature itself is to be understood theologically; science itself is self-admittedly limited in what it can say about the ontology of nature, divine action, or the God-world relationship. Theistic naturalists insist upon a God-nature relationship in which nature is always and everywhere fundamentally susceptible to divine action, influence, and relationship. My intention in Part Two has not been to put forward one particular version of theistic naturalism as superior, but to demonstrate how the core features shared in common

address the question of divine action in a far more theologically adequate way than does the standard model.

While I have argued that some version of theistic naturalism (or, perhaps, a hybrid model of various versions) is far superior to standard causal joint models of divine action, theistic naturalisms share in common one significant weakness. That is, because they are all explicitly theological models, they are essentially unfalsifiable and immune from scientific critique. This, of course, might well be considered one of the advantages of theistic naturalism: such models are not subject to the ever-changing tides of scientific research or academic consensus. In fact, theistic naturalisms can be seen as theological models reclaiming the title of "queen of the sciences" – it is theology that defines the ontology of nature and the boundaries of science, rather than the sciences determining the scope and parameters of theological affirmations such as divine action. Some may be happy with this shift, and welcome the chance to affirm theological models of divine action as necessarily and properly independent of scientific critique. Nevertheless, to the extent that science-and-religion is meant to insist upon actual engagement between the sciences and theology, it is not always clear how theistic naturalisms might achieve this. For example, critics might argue that theistic naturalisms still have not adequately addressed the causal joint problem.

Indeed, both Knight and Yong address the causal joint by reframing divine action as truly natural manifestations of the laws of nature – for Knight, these laws are atemporal fixed instructions, while Yong envisions temporal laws being altered by God toward eschatological ends. Some might argue that this reworking of the laws of nature is alien to the actual practice of working scientists, whose understanding of the laws of nature arise from empirical observation, falsifiable theories, and repeatable testing. Even more problematic is the participatory ontology of Smith and the double agency of the Thomist, respectively. Neither of these models even attempts to answer the causal joint question, but instead they reframe all of nature as a sort of perpetual causal joint. In the case of Thomism, both God and nature are full causes of all events – but, then, how can any particular action be specific, special, or truly responsive to creaturely needs? Ironically, double agency can seem simultaneously over-deterministic (insofar as God is the cause of all events) and overly distant or unspecific (insofar as natural processes are full causes of all events). In the case of Smith's participatory ontology, the relationship between God and

nature is more dynamic and responsive than Thomism, with variably intense instances of divine action occurring when creatures respond to, or participate in, God. But how, exactly, does this participation occur? Where is the dividing line between natural and supernatural? If there is no clear dividing line or causal joint (as seems to be the case), then we are once again face-to-face with deism – or pantheism. Needless to say, scientists (at least in their *role* as scientists) would have little to say to either the Thomistic or participatory model – there is simply no room for scientific inquiry in these models, at least regarding divine action. While, as I have argued, theistic naturalisms do seem to offer the most promising route for divine action research (and they are certainly superior to causal joint theories, if one is committed to compatibilism), I would suggest that the causal joint problem remains. This may simply be an epistemological limitation of the field (necessary or otherwise), but it remains one of the most significant problems in science-and-religion. In fact, it is difficult to imagine what real progress in this area would even look like – after all, addressing the causal joint problem was the precise aim of the DAP, which I have strongly critiqued. In any case, more creative research on the causal joint problem is a potential area of needed attention.

At the conclusion of this thesis, it is useful to highlight once more its particular contributions to, and impact on, the science-and-religion field. This contribution is twofold, being both deflationary and constructive. First, this thesis could potentially affect the way that science-and-religion scholars (as well as theologians) think about human consciousness. More specifically, I have hoped to provide a sound refutation of arguments that would privilege the mind as nonphysical and, especially, uniquely spiritual. So long as theological doctrines are dependent on nonphysicality – for example, an immaterial soul or divine action in the nonphysical mind – the relationship between science and religion will be one of competition and defensiveness. This thesis' argument that the mind is at least fully natural – and potentially even physical – is thus theologically audacious and may allow for further, nondefensive theological postures in the face of scientific research on the mind-brain. Second, and related to the first contribution, this thesis points toward a way forward in divine action theology – namely in regards to theistic naturalisms. Theistic naturalisms, I argued, reframe the divine action conversation in such a way that the physical itself is involved with God's active presence. In other words, theistic naturalisms offer theological frameworks that remove the need for defensiveness or theological anxiety in the face of scientific, physicalist explanations. Thus, not only is the mind-brain not nonphysical, but theologically speaking it does not *need* to be more than physical. A theistic naturalist stance allows

not only for a full affirmation of robust divine action in the human mind, but it also actively encourages scientific explanations for the mind – precisely because physicality does not stand in dichotomous relationship to God. A neural, biochemical, *physical* picture of the mind need pose no threat to dynamic interaction with God – if indeed it is true that "in him we live and move and have our being."[1]

[1] Acts 17:28 (NRSV).

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